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# Farmers' Markets in Kentucky: A Geospatial, Statistical, and Cultural Analysis

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FARMERS' MARKETS IN KENTUCKY:  
A GEOSPATIAL, STATISTICAL, AND CULTURAL ANALYSIS

A Thesis  
Presented to  
The Faculty of the Department of Geography and Geology  
Western Kentucky University  
Bowling Green, Kentucky

In Partial Fulfillment  
Of the Requirements for the Degree  
Master of Geoscience

By  
Elizabeth Ann Schmitz

December 2010

**FARMERS' MARKETS IN KENTUCKY:  
A GEOSPATIAL, STATISTICAL, AND CULTURAL ANALYSIS**

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FARMERS' MARKETS IN KENTUCKY:  
A GEOSPATIAL, STATISTICAL, AND CULTURAL ANALYSIS

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December 2010

182 pages

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To assess what factors are driving the exponential growth of farmers' markets in Kentucky, geospatial and statistical analysis of a database of 121 farmers' markets was conducted. A statewide survey of market leaders and a case study of a single farmers' market both identified reasons for growing support of farmers' markets in Kentucky.

Market distribution, vendor levels, and gross sales were mapped against a backdrop of county urban classification, median household income, and education levels. Kruskal-Wallis analysis was used to identify if Kentucky's rural, micropolitan, and metropolitan markets differ significantly in terms of their age, number of vendors, and market sales.

Geospatial analysis indicates that farmers' markets are more concentrated in metropolitan areas of the Commonwealth. However, statistical analysis reveals that farmers' markets have been established longer in micropolitan areas of the state. Markets across urban classes have significantly different ages and gross sales, but all markets tend to sustain a similar number of vendors. Population levels appear to have the strongest correlation with the variables studied, although education and household median income also may play a role in farmers' market strength.



Market stakeholders believe that markets are gaining popularity as consumers become more aware of food safety and environmental problems in the mass market system. Farmers' markets are considered an important tool for strengthening the local economy, connecting farmers with consumers, and increasing local availability of fresh and nutritious foods.

## **Table of Contents**

Abstract.....	<b>Error! Bookmark not defined.</b>
List of Illustrations .....	vi
Acknowledgements.....	viii
Chapter 1: Introduction .....	3
Research Questions and Hypothesis.....	7
Chapter 2: Literature Review.....	9
Globalization .....	10
Sustainability.....	13
An Alternative Geography of Food.....	19
Economy of Local Food.....	25
Calls for Further Research.....	29
Chapter 3: Data Sources and Methodology .....	31
Data Sources.....	33
Boundary Delineation and Urban Classification of Kentucky Counties.....	34
Quantitative Analysis: Data Collection .....	36
Qualitative Analysis: Data Collection .....	37
Southern Kentucky (SKy) Regional Farmers' Market Case Study.....	39
Purpose and Reason.....	39
History of the SKy Regional Farmers' Market .....	40
Bylaws .....	42
Chapter 4: Results - Farmers' Markets in Kentucky .....	44
Metropolitan Areas .....	50
Micropolitan Areas .....	56
Rural Areas .....	57
Changes in the Market Population over Time.....	59
Age of Markets: Farmers' Market Formation by Year .....	61
Reasons for Market Formation .....	66
Other Factors Relating to Market Age in Kentucky.....	67

Kruskal-Wallace Analysis .....	75
Farmers’ Market Gross Sales .....	77
Factors Relating to Gross Sales .....	77
Population Density .....	87
Kruskal-Wallace Analysis .....	95
Farmers’ Market Vendor Strength .....	98
Factors Related to Vendor Strength.....	98
Vendor Strength by Urban Classification.....	105
Correlation Analysis by Urban Classification.....	106
Kruskal-Wallace Analysis .....	112
Benefits of markets.....	113
Future Market Sustainability .....	118
Marketing and Outreach .....	122
Defining “Alternative” and “Farmers’ Market” in Kentucky .....	124
State Policy Review .....	125
Farmers’ Markets and Kentucky Proud Branding.....	125
Verification Systems .....	127
Benefits of Producer-Only Markets.....	128
The Importance of Consumer Education and Cultural Shifts.....	129
Public Market Examples – Extending the Reach, Presence, and Capacity of a Market .....	130
Established Public Market Halls in Ohio .....	131
North Market, Columbus.....	131
West Side Market, Cleveland .....	133
New Market Halls and Strategies for Low-Cost Development.....	135
Price Point Concerns in Low Income Areas.....	139
Customer Demographics .....	142
Future Work .....	142
Chapter 5: Conclusion.....	145
Spatial Distribution of Farmers’ Markets in Kentucky.....	145
Primary Factors Influencing the Growth of Farmers’ Markets in Kentucky .....	146

Consumer and Producer Response to Globalization .....	147
Presence of an Alternative Food Network .....	148
Appendix A Southern Kentucky Regional Farmers Market Bylaws.....	151
Appendix B: Kentucky Farmers’ Markets .....	165
Listed Alphabetically by Metropolitan/Micropolitan Statistical Area and by Rural County .....	165
Appendix C: Governor’s Office of Agricultural Development Fund Projects - Farmers’ Markets (2001-2009) .....	171
Listed Alphabetically by County .....	171
BIBLIOGRAPHY .....	177

## **List of Illustrations**

Figure 1. Cincinnati-Middletown Metropolitan Statistical Area Population Levels and Counties (Kentucky Only).....	37
Figure 2. Number of Farmers' Markets by County .....	45
Figure 3. Counties with Farmers' Markets by Urban Classification .....	46
Figure 4. Kentucky Farmers' Markets: Urban Classification and Larger Cities .....	47
Figure 5. Population and Number of Markets per County.....	48
Figure 6. Average Farm Size and Number of Farmer's Markets by County.....	49
Figure 7. Markets Established in Kentucky by Decade, 1950-2008.....	62
Figure 8. Ten Oldest Farmers' Markets in Kentucky .....	68
Figure 9. Twelve Youngest Farmers' Markets in Kentucky.....	69
Figure 10. Market Gross Sales and Age .....	71
Figure 11. Kentucky Market Age and County Population .....	72
Figure 12. Market Age by Urban Classification.....	73
Figure 13. Metropolitan Farmers' Market Age in Kentucky .....	74
Figure 14. Micropolitan Farmers' Market Age in Kentucky .....	74
Figure 15. Rural Farmers' Market Age in Kentucky .....	75
Figure 16. Statewide Farmers' Market Gross Sales.....	79
Figure 17. Gross Sales and Urban Classification.....	80
Figure 18. Gross Market Sales by County .....	82
Figure 19. Gross Market Sales versus Median Household Income .....	83
Figure 20. Gross Market Sales versus Percentage of Population Holding a Bachelor's Degree.....	84
Figure 21. Top Ten Farmers' Markets, Ranked According to Gross Sales .....	85
Figure 22. Smallest Ten Markets in Kentucky, Ranked According to Gross Sales .....	86
Figure 23. Farmers' Market Gross Sales and Vendor Strength .....	87
Figure 24. Farmers' Market Gross Sales and County Population .....	88
Figure 25. Population and Gross Farmers' Market Sales .....	89
Figure 26. Metropolitan Market Gross Sales and Competition for Market Share.....	91
Figure 27. Metropolitan Market Gross Sales and Population.....	92
Figure 28. Micropolitan Market Gross Sales and Competition for Market Share.....	94
Figure 29. Micropolitan Market Gross Annual Sales and Population .....	94
Figure 30. Rural Farmers' Markets Gross Annual Sales .....	96
Figure 31. Rural Market Gross Sales and Population.....	97
Figure 32. Urban Classification and Number of Vendors per County .....	99
Figure 33. Vendor Strength for Individual Kentucky Markets.....	101
Figure 34. Vendor Populations in Metropolitan, Micropolitan, and Rural Counties ....	101
Figure 35. Number of Vendors per County versus Median Household Income .....	103

Figure 36. Aggregate Number of Market Vendors versus Percentage of Population with a Bachelor's Degree.....	104
Figure 37. Top Eleven Markets Ranked by Vendor Strength, 2008.....	105
Figure 38. Thirteen Smallest Markets Ranked by Vendor Strength.....	106
Figure 39. Market Vendor Strength in Metropolitan Areas.....	107
Figure 40. Market Vendor Strength at Markets in Micropolitan Areas.....	107
Figure 41. Market Vendor Strength in Rural Areas.....	108
Figure 42. Population and Number of Vendors per County .....	109
Figure 43. County Population and Number of Market Vendors.....	110
Figure 44. Metropolitan Population and Number of Market Vendors.....	111
Figure 45. Micropolitan Population and Number of Market Vendors.....	111
Figure 46. Rural Population and Number of Market Vendors.....	112
Figure 47. Multiple Benefits of Farmers' Markets .....	115
Figure 48. Reason for Choosing the Southern Kentucky Regional Farmers' Market...	116
Figure 49. Important Factors for Market Success as Identified by Market Leaders.....	118
Figure 50. Market Leader Wish Lists .....	119
Figure 51. Customer Responses to the Question, How Did You Learn about the SKy Regional Farmers' Market? .....	123
Figure 52. Gender Composition at the SKy Market .....	143
Figure 53. Customer Age Range at the SKy Market .....	143

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## **Chapter 1: Introduction**

Globalization has opened the gates for the free movement of goods, services, and information across the world (Le Heron and Roche 1996, La Trobe and Acott 2000). The internet, global banking systems, mechanization, liquid fuel transport, and other international networks provide the mechanisms that allow greater international communication and trade (Lechner and Boli, 2004, Appadurai, 2003). In doing so, economies of scale and extensive transport networks are created, meeting the demands of consumers for a diverse and inexpensive food supply (Barrett et.al 1999, Von Braun 2002, La Trobe and Acott 2000, Friedland and Goodman 1993, Jumper 1974, Sommer *et al.* 1981). However, complete dependence on the international food web may create a state of local food insecurity (La Trobe and Acott 2000, Nygård and Storstad 1998, Stagl 2002, Günther 2001, Bowler 2002).

International economic policies such as the Global Agreement on Tariffs and Trade (GATT) or those enforced by the World Trade Organization (WTO); multinational corporations, technological innovations, and many other features of globalization and modernization have together shifted agricultural production, distribution, and marketing systems to large-scale, international affairs (La Trobe and Acott 2000, Tiffen 2002). Relatively logical trade arrangements, such as the import of crops from Mexico to the United States, have less logical parallels, like the import of produce from Kenya to the UK (Barrett *et al.* 1999). Trade arrangements like this result in ever increasing “food miles” for many food products (Halweil 2004, La Trobe 2001, La Trobe and Acott 2000, Günther 2001). By influencing trade prices, globalization makes the export of goods more lucrative, often resulting in local food shortages (Barret, *et al.* 1999, La Trobe and Acott 2000). Imported food can be more expensive and people may end up going



without food in order to meet the many costs of daily life. In Kerala, overfishing has forced fishermen to sell what little they can catch to the higher-priced export market (La Trobe and Acott 2000, 313). In another example, Brazilian per capita domestic food consumption decreased while per capita exports increased, and malnutrition rates hovered at 50% (La Trobe and Acott 2000, 313). Meanwhile, in other parts of the world, traditional food cultures and associated biodiversity are eroded as cheap imports displace local ingredients (La Trobe and Acott 2000, Fowler and Mooney 1996, McAfee 2003). The dependence on liquid fuel transport and ever larger food production and distribution conglomerates may not be ecologically, economically, or socially sustainable (Halweil 2004, Günther 2001, Bowler 2002, Pretty 1996, La Trobe and Acott 2000).

In the United States, food production, distribution, and purchasing patterns are changing as a result of globalization and urbanization (Mayo 1993, Lyson and Green 1999). Farm sizes are growing and the number of farmers is shrinking (La Trobe and Acott 2000). Mechanization and the need for increased yields drives farmers to compact and deplete their soils; depend on expensive bioengineered seeds that must be purchased every year and that cannot be saved by the farmer due to patent constraints; spray chemical pesticides and fertilizers on the land, poisoning workers, soil, water, and beneficial organisms; and depend on liquid fuel to run agricultural equipment (Bowler 1990, Pretty 1998, Günther 2001, McAfee 2003, Le Heron and Roche 1996). Agricultural soils, which can take centuries to build, are eroding at rapid rates due to conventional farming practices and land conversion rates (La Trobe and Acott 2000, Günther 2001). Agricultural land is covered by suburban sprawl at a rapid rate, while the urban core migrates to the suburbs. Suburban lifestyles demand imported food and increased motor

transport, while simultaneously subverting farmland (Ableman 1998, Mayo 1993).

Meanwhile, rural emigration continues as more farmers get squeezed by the necessity for increased economies of scale and must either “get big or get out” (La Trobe and Acott 2000, Halweil 2004). Increased links in the food supply reduce the price paid to the farmer, further reducing the farmers’ ability to keep farming as a livelihood. A long food supply chain and series of middlemen increases costs for the consumer, as well (Shakow 1981, La Trobe 2001). Just ten of the 100 largest U.S. based multinational corporations control around half of annual food and beverage sales in this country (Lyson and Green 1999, 137). Grocery stores dominate food retail and influence many aspects of the food supply chain and purchasing patterns (Mayo 1993, Sommer *et al.* 1981, Lyson *et al.* 1995). U.S. citizens have very little connection to their food – where it came from, how it was grown, or what the welfare of the farmed animal or the farmer may be – but interest in that connection is growing (Lockeretz 2003, La Trobe 2001, Halweil 2004, Brown 2003). Modern day urban and rural dwellers alike tend to be unfamiliar with food as a whole product. That is, modern consumers are more familiar with buying pre-packaged and prepared foods. These foods require little interaction with the food itself, other than the act of eating it (Halweil 2004).

An important avenue for addressing these trends is through direct marketing, wherein farmers sell their product directly to the consumer. While a plethora of direct-marketing schemes are employed in Kentucky, including Community Supported Agriculture (CSA) subscriptions and roadside stands, farmers’ markets are well documented and may provide the best available indicator of urban-rural food connections. Information about farmers’ markets has been collected by the Kentucky

Department of Agriculture (KDA) for the last five years (Eaton 2008).

The farmers' market growth trend is evident at local, national, and international levels. In Kentucky the number of farmers' markets and vendors has grown exponentially for the last several decades (Eaton 2008). According to CBS news in the U.S. 850 new markets formed in 2009-2010, bringing the national number of farmers' markets to over 6,100 (Teichner 2010). Farmer's markets are growing internationally as well – for example, in England, Wales and Scotland the numbers have skyrocketed from 2 markets in 1997, to 120 in 1999 (La Trobe 2001, 182).

A myriad of reasons appear to be driving the shift in purchasing habits. Farmers' markets tend to develop as a region or country reaches maturity and they continue playing a role in that growth; and are thus considered an aspect of traditional culture (Basil n.d.). However, farmer's markets and public markets lost footing in the market place with advances in technology, such as highways, motorized transport, and refrigerated trucks, which allowed for the first-time mass transit of food items and the distribution of these items through chain grocery stores (Mayo 1993). Farmers' markets in developed nations are therefore considered to be a post-modern alternative to big business. This juxtaposition of traditional, modern, and postmodern cultural patterns of food consumption is particularly interesting in Kentucky, where supermarket penetration is high and the population is urbanizing while still strongly rooted in rural tradition.

In Kentucky, research has shown broad support for the Kentucky Proud brand, a marketing tool developed by the Kentucky Department of Agriculture in 2007 that symbolizes products made or grown in Kentucky. The branding effort is part of a program developed with money from Kentucky's Agricultural Development Fund.

According to one study, the Kentucky Proud program has generated \$4.70 per dollar spent in additional farm income (Infanger *et al.* 2008). This is especially important in Kentucky because the Commonwealth has been long dependent on tobacco for rural income. The high dollar value of the tobacco crop has sustained Kentucky's agricultural viability, especially in the case of the small farm and part-time farmer. For Kentucky farmers, transitioning to vegetables and direct marketing of them has offered a continued high price point with small, intensively farmed acreage, similar to tobacco only by many counts, less labor intensive.

Growth in the local food movement, including farmers' markets and locally branded food in Kentucky may reflect an emerging alternative food network. The impact of urbanization and other factors shaping this trend will be explored. In addition to urbanization, an alternative food network may be developing in Kentucky as a response to the ecological, economic, and qualitative effects of globalization on the food supply.

The purpose of this study is to determine the spatial distribution of farmers' markets in Kentucky. What conditions, such as educational attainment, household income, or state policies are shaping the distribution of farmers' markets? Is there a consumer and producer response to the environmental, economic, and social impacts of globalization on food? If so, is this response playing a role in influencing the emergence of an alternative food network in Kentucky?

### *Research Questions and Hypothesis*

The number of farmers' markets is on the rise in Kentucky; almost doubling from 1998-2007 while the number of vendors has increased 130% (Eaton 2008). My leading research question is: What primary factors are driving the growth of farmers' markets in

Kentucky? Additional research questions that may be addressed via qualitative analysis include: What does the growing number of farmers markets and vendors tell us? Does the fact that this shift is happening indicate an emerging alternative food network, and/or an increasing trend toward sustainability in Kentucky? To what degree have Kentucky farmers' historical reliance on tobacco – traditionally a small farm, labor intensive and subsidized crop – impacted their transition to market farming? How does the availability and patronage of farmers' markets impact the ecological/carbon footprint of food consumption in Kentucky; in other words, to what degree are food miles shrinking as a result of access to these markets and products?

The sustainability, safety, and availability of Kentucky's food supply may be at risk due to the impacts of globalization on distribution networks and the industrialization of agriculture. The demonstrated growth of farmers' markets in Kentucky indicates a shift towards localization of the food supply. My goal is to ascertain what factors, from demographic statistics to consumer preferences to policy decisions, may be driving the growth of farmers' markets in the Commonwealth of Kentucky.

## **Chapter 2: Literature Review**

The body of literature surrounding agro-geographical themes, both environmental and social, has grown significantly in the last 10-15 years, particularly in terms of production-consumption links, global-local economics, rural change, and sustainability (Winter 2003, Bowler 2002, Maxey 2006). This is a change from past agro-geography studies, which primarily regarded food in an economic context - as a raw commodity or in terms of retail, whereas the more recent body of literature tends to be more holistic in its approach to analyzing the food system (Winter 2003).

The environmental and social conditions surrounding the growth and distribution of food create the eco-geography of our food supply. Feagan (2007) describes food transactions as being re-imbedded in community and place, when relationships build between the producer and the consumer (see also Winter 2003). This is also described by Goodman (2003) as a 'quality turn' that Feagan (2007) associates with shifting consumer values that are tied to fears and uncertainties about the consequences of industrializing agriculture (see also Von Braun 2002). Winter (2003, 507) describes the 'turn to quality' in the food market as centering on consumers' food safety concerns in addition to the social and environmental issues surrounding globalized and industrialized agriculture, farm animal welfare and fair trade. Embeddedness is a phrase used to describe this meshing of place, ecology, and quality (Feagan 2007, Winter 2003, Feenstra 2002). It is also a term used to convey the principals of social connectivity, reciprocity and trust in communities (Kirwan 2006). Kirwan (2006) points out that the non-economic benefits of the market spurred by face-to-face interaction also have merit, and in fact that farmers' markets are generating a new "consumption-production space," that helps consumers trust the authenticity of a product and its production phase.

Sense of place and cultural embeddedness are more important than ever to the UK consumer (Kirwan, 2006). If Kirwan (2006) is correct, consumer demand is creating new opportunities for the producer currently excluded by the hegemonic requirements of the globalized market. However, the producer meeting the demands of the new consumer must answer not only to the quality of the product itself, but also the process by which the product is created (Kirwan 2006, Worstel 1995).

Despite the fact that the United States' food system is among the most tightly regulated in the world and thus is often considered to be the safest food system, many U.S. consumers are concerned about the safety of the industrial food supply. Thus, industry practices and standards are being called into question by the consumer. How do we rate, or grade, our food supply? What are the values held in common that create those definitions? Our understanding of food had been disembodied from our traditional cultural relationships with it (Kirwan 2006, Holloway 2006). Direct marketing through farmers' markets is a means of resocializing food by putting farmers and consumers face-to-face, and respatializing food by requiring it to be locally produced (Kirwan 2006, 302).

### **Globalization**

Numerous authors describe and document the impact of globalization on agricultural production, marketing, and economic schemes (Friedland and Goodman 1993, Hathaway 1974, La Trobe and Acott 2000, Nygård and Storstad 1998).

Globalization can be defined as the free and unfettered flow of information, capital, and services across international boundaries. Globalization of the food system has been fueled by agreements like the GATT and the North American Free Trade Agreement (NAFTA) and requires that agricultural production and consumption are commoditized,

industrialized processes that feed ever larger conglomerates (La Trobe and Acott 2000). According to Winter (2003) research focused on WTO reforms has not addressed the issue of reconnecting farmers to their markets, which they have become separated from through the subsidized, large scale commodity market system advanced by the GATT.

Examples of impacts of globalization on the food system include: the growing size and shrinking number of farms in the U.S.; the uniformity and sturdiness of produce in the grocery store – a requirement for fruits and vegetables that are flown across the country and the world (Gwynne and Kay 2000); and the rising cost of food – reflecting the ever-growing length of the marketing chain. Food security concerns are growing as reports of food borne disease proliferate in Europe and the United States and contaminants are discovered in food ingredients sourced from China (Nygård and Storstad 1998, Barrett *et al.* 1999, Arce and Marsden 1993).

Hathaway (1974) describes and documents food price inflation as it relates to globalization and industrialization, suggesting that agricultural price, income, and trade policies in the 1950s and 60s (including GATT) resulted in food prices turning “...into a torch that fueled the worst inflation in more than two decades” (65).

Nygård and Storstad (1998) depict how the global food market influences consumers’ confidence in food products, claiming that food culture and consumers’ perception of safe food will limit the impact of globalization on local food systems. The shift from national agricultural protectionist policies to free trade policies regulated by GATT and the WTO has impacted local communities and economies by increasing the element of risk in the fresh food sector. Barrett *et al.* (1999) concur that consumers are



beginning to demand that farmers and retailers be held accountable for food safety, and that they are willing to pay for it.

According to Nygård and Storstad (1998), further impacts of globalization will be limited, due to cultural characteristics of local populations including taste and tradition. Strategies used by the Norwegian Ministry of Agriculture for maintaining strong local buying preferences on the part of the consumer include “teaching” the consumer to prefer local products by creating a local brand and emphasizing quality, safety, and country of origin through the branding process. Many farmers’ markets in Kentucky emphasize the “Kentucky Proud” brand and of these, many do not allow vendors to resell farm products at farmer’s markets. A recent study released by the University of Kentucky demonstrated that the Kentucky Proud brand generates \$7.8 million in farm income per year (Infanger *et al.* 2008), giving credence to Nygård and Storstad’s proposed strategies.

Susman (1989) discusses how globalization has served to magnify the inequities of the industrial model. Increasingly global sourcing policies mean that decisions made in one place can dominate another place that is thousands of miles away (Barrett *et al.* 1999). Farmers have long been marginalized by U.S. farm policy. Susman (1989, 293) describes the farm crisis in the context of the global economy: “Dominant economic interests have... [forced] farm prices to remain below the cost of production as a subsidy to the rest of the economy.” Direct marketing through farmers’ markets allow the farmer to garner higher returns, thus offering farmers some relief from the market cost-price squeeze.

Winter (2003) claims that geographers have tended to see farmers as victims of globalization and points out that numerous stakeholders - including and often led by

farmers - are finding ways to cooperate and add value to their products to help them deal with lower market prices. Worstell noted in 1995, in a review of policy options for Kentucky farm and markets, that if value-added enterprises were to be catalyzed in Kentucky, literature on entrepreneurship must be delivered into the hands of Kentucky farmers.

### **Sustainability**

Sustainable agriculture, according to the University of California, Davis Sustainable Agriculture and Research and Education Project, “integrates three main goals – environmental health, economic profitability, and social and economic equity,” (Alkon 2008b, 272). This fusing of the environment, economy, and social equity connects the human and statistical research proposed in this thesis.

In terms of sustainability, there are many factors that must be considered when it comes to our food supply, following these three themes of ecology, economy, and equity (Maxey 2006). As Maxey (2006) notes, the simplicity of sustainability’s triple bottom line is only deceptive in that bringing the paradigm into reality requires a complete shift from current dominant patterns of thought. Sustainability emphasizes connections and can be used as a tool to facilitate follow through from questioning, to analysis and then to action. “In this sense, the concept of sustainability becomes an action rather than an endpoint,” (Maxey 2006, 231).

Fossil fuel used in the production and transport of the food, suburbanization and other changing land use patterns, shrinking biodiversity levels, and agricultural practices that can either promote or prevent environmental deterioration – all these and more environmental issues have been discussed in the literature (Pretty 1998, Bowler 2002).

However, it is important to note here that using the environment - especially as a concept separate from humans - as the sole determinant factor indicating sustainability “conflate[s] the environment with wild nature [and] impedes the development of environmental ethics rooted in daily human life,” (Alkon 2008b, 274). Authors have begun imbuing agrological sustainability with a sense of place (Feagan 2007), particularly those authors identifying bioregionalism and food sheds in their work (Feagan 2007, Stagl 2002). Bioregionalists believe that humans, through focused attention to their local places, can develop connections with the natural world, and that the same connection to local places can foster functional actions towards environmental sustainability (Alkon 2008a). This shift of the geographical nexus has helped move the environmental debate from the wild and into a landscape in which humans live, particularly the agricultural and urban landscapes (Alkon 2008a). Specific integration of marginalized populations and their access to food has been neglected in geography’s agricultural sustainability literature, which as both Alkon (2008a, 2008b) and Winter (2003) note, has in general been slow to shift its attention to humans and their interactions with the environment, and in particular has neglected issues of social justice and social sustainability.

It is important to consider the ability of the alternative food systems in terms of how they address not only the environmental and economic concerns generated by the productivist and global eras, but also social concerns. Sustainability can be – and often is – considered solely in terms of environmental concerns, but a more complete analysis of sustainability also takes cultural and social issues into account (Alkon 2008b). Just Sustainability identifies the need for communities that are sustainable and livable for all

people and that also provide for the “ecological integrity” of the planet (Alkon 2008b, 273).

Numerous authors (Bowler 2002, La Trobe and Acott 2000, Pretty 1998, Yapa 1993) identify environmental, social, and economic costs of agricultural intensification since the advent of productivism in agriculture, and particularly since the Green Revolution. Bowler (2002, 206) states that productivism, also coined the ‘second food regime,’ is manifest in the following: “modernization of farming practices; the incorporation of the farm sector into an industrialized food supply system for mass markets; and strong state protection for agriculture.” Environmental impacts are not limited to air and water pollution, reduced productivity and soil fertility, pest resistance, and a reduction in biodiversity. Social impacts include rural emigration and deterioration of rural communities, job loss due to mechanization and health impacts from chemical application. Economic effects include a reduced market share for farmers and subsequent reduced purchase power in the local population. Some authors offer that a post-productivist transition is occurring, as evidenced by less food production, a withdrawal of state subsidies, an increasingly competitive international market, and more environmental regulations (Barrett *et al.* 1998, 160). The post-productivist transition may be driving increased intensive farming and direct marketing, after a long period of state subsidies for large scale commodity production that has pushed the “get big or get out” paradigm and subsequent rural emigration (Winter 2003). Producers, processors, and marketing systems are evolving to meet new consumer demands for traditional agricultural techniques with a strong ethical component.

La Trobe and Acott (2000) further identify the environmental, economic, and

social costs of the global food system, beginning with the concept of “food miles,” or how far an item has traveled from farm to fork. A number of authors are connecting the environmental impact of food transport over many miles (Brown 2003, Günther 2001, Stagl 2002, Feagan 2007). Others are identifying vulnerabilities in our food networks due to current dependence on liquid fuel for transporting food (Günther 2001).

Ecologically speaking, the idea of embodied energy is recognized in the construction industry with the LEED standard, which requires that a certain percentage of the building be constructed of materials harvested from a local source or on-site. This requirement reduces the amount of energy embodied in the building by eliminating transport miles. Günther points out that in Sweden, for the average family of four approximately 10 units of energy are expended for each unit of energy supplied at the table...making the food system the single largest user of energy and the one with the most potential for energy efficiency (2001, 262).

The amount of energy put into creating food often surpasses the caloric content of the food itself. Clearly, this is an upside down equation. Fossil fuel-based market economies are energy intensive. Considerable energy is lost in the production and transport of fossil fuels, much less the products generated with them. In fact, most of the main ingredients for the industrial agricultural systems of today – synthetic fertilizers, pesticides, pharmaceuticals, silage plastic and mechanized diesel equipment – are derived from or created to use fossil fuels. Furthermore, as Günther points out, the processes and services normally engineered by the plant to ensure its own survival – pest resistance, competition with neighbors, seed distribution, planting, acquisition of nutrients, feeding fungi and micro-organisms, and soil treatment – all the functions other than seed

production – are engineered in agricultural fields by the farmer relying on fossil fuels to do the job (2001). This system allows the plant to have much energy left over for seed production, increasing yields. However, the agricultural system – and in particular the agro-ecosystem – is weakened by the lack of natural processes and dependence on the farmer.

Masters (1994) demonstrated that oil discoveries peaked around 1960, followed by a decline. The weighted average of the global oil discoveries, the “Hubbert curve” is a typical bell-shaped curve. Extraction levels of oil follow the same curve but with a 40 year lag time. If that is the case, in this decade the U.S. is beginning to experience the effects of peak oil, when the level of extraction is reaching the correlated peak of global discovery, 40 years later. The spike in gas prices in 2008 is indicative of this trend. Günther (2001) suggests that the energy price increases from 1999-2000 (when the price of crude tripled, from \$10 - \$30 per barrel) may have been related to the economic slow-down at that time. As the U.S. faces a recession in the wake of \$140/barrel oil prices, perhaps Americans should be concerned about the probable lack of food availability, coupled with high costs, when the next price spike hits.

La Trobe and Acott (2000) note that although organic farming can do much to mitigate the impacts of industrialized agriculture, distribution networks must focus on reducing long marketing chains. Connecting local production to local consumption can lessen the environmental impact of food distribution. This can be achieved by identifying and integrating farmers’ markets, community supported agriculture and urban agriculture into the existing food network.

Large industrial systems making up an ever larger share of the whole, lead to

increased vulnerability of the food network. When impacted by any of a number of scenarios – disease, drought, pest outbreaks, or transport problems, for example – the larger system with its increasing share of total production has a greater impact on food delivery for the population than if a smaller unit of production was impacted. Less production units renders a smooth distribution and transportation flow ever more important. Gunther (2001) repeatedly reminds the reader that the trend towards increasing specialization has ultimately decreased diversity and reduced food system resilience, increasing its vulnerability. Furthermore, the longer temporal scale of this kind of change in our food habits make the feedbacks in the system slow and so we are just beginning to see some of the potential impacts of our fossil fuel dependency on food availability and prices.

In contrast, localization calls for decentralized, smaller scale production systems and supply chains. In Britain, direct marketing of local products is considered a method of farm diversification – a means to fund sustainable agriculture, link the urban and rural sectors, and revitalize market towns (Nichol 2003). Stagl lists several sustainability benefits from community supported agriculture schemes: requiring less transport, meeting consumer ethical concerns, educating the consumer and generating trust, product variety leading to better health and ecological cropping methods, and decreased food costs (2002). However, Stagl also finds that these systems have a limited geographical reach, are restricted by seasonality, have high failure rates, and are constrained by consumer behavior and demands. Farmers' markets offer many of the same benefits and limitations.

## **An Alternative Geography of Food**

Eating, says Maxey, "...connects us all. Everything we eat places us into a series of socio-economic, cultural, even spiritual positions and enmeshes us within webs of relationships extending across time and space," (2006, 232). The food sector reflects many of the current societal processes surrounding globalization and localization (Arse and Marsden 1993). An "Alternative Geography of Food" seems to be emerging in response to industrial agricultural and global marketing schemes (La Trobe and Acott 2000, Lyson and Green 1999, Watts *et al.* 2005, Whatmore and Thorne 1997, Murdoch *et al.* 2000). Local food systems are thoroughly embedded in both the ecological and social community, leading to discussion of alternative food economies.

As geographers explore the concepts of alterity, or alternatives, in rural economies, McCarthy (2006) and Watt (2005) remind us of the importance of defining what they are alternative to. What makes them alternative? Are these alternative food networks and their associated economies considered alternatives to capitalism? ...Postwar productivism? ...Globalization? ...Neoliberalism? McCarthy (2006) points out that despite the alternative label, most local food systems still utilize and circulate capital, harnessing "intrinsic dynamics of capitalism to progressive political projects" (809). In fact, the use of capital and the contributions of farmers' markets to the local economy have influenced public policy and support of these markets.

Whatmore and Thorne (1997) describe how food quality is becoming re-embedded in local ecology. In other words, the best food systems may be those that utilize what can be produced locally, in harmony with the surrounding climate, soil type, land base, or other ecological constraints. Re-embedding also occurs in the social realm,



according to Feagan (2007). In the Local Food Systems literature, notions of ‘embeddedness’ have increasing resonance among geographers, who note socio-cultural processes which build relationships between producer and consumer such that food transactions are re-embedded in community and place (McCarthy 2006, Kirwin 2004). This idea is explored by Stagl, who defines a “foodshed, wherein one follows the food back to its source, much like finding the headwaters of a watershed” (2002, 3-4). Stagl’s analogy of a watershed highlights the holistic, ecological concept of this approach. Tracing an item to its source, or identifying the “embodied energy” of that item can be a useful tool in analyzing environmental, social, and economic costs of the item (see also the discussion on sustainability). Several authors (Stagl 2002, Kingsolver 2007, Pollan 2006) explore the idea that seasonal eating could be one specific characteristic of a sustainable food system. Along with eating regionally and seasonally, examples of spatially defined processes and programs that build associations between ecology, trust, and place include: purchasing locally produced and processed foods, the use of local food in school lunches, community farms run by citizens and university students, and local food policy councils (Feagan 2007, Feenstra 2007). Alternative geographies of food also include the organic sector, grass-fed beef, kosher standards, local labeling, and urban gardening. Growth in organic retail sales has grown by 20% or more annually since 1990, while the U.S. Department of Agriculture estimates that between 1993 and 1997 U.S. certified organic cropland doubled to 1.3 million acres (Demitri and Greene 2002). Growth in the kosher market includes a large number of consumers who view kosher as higher quality, more humane, and safer (Severson, 2010). Inner city residents struggle with a largely unrecognized problem – urban food deserts. Eighmy (1972) explains that

towns are “intense food deficit points located within large areas where food production is in excess of local consumption,” (299). In urban areas and particularly inner cities, a grassroots movement known as guerilla gardening is transforming vacant lots into verdant gardens. Now, even President Obama and the First Lady have installed an organic garden in the white house, a return to a practice once instituted by Thomas Jefferson.

Farmers’ markets and other alternative food networks defy the current convention of supermarkets. The globalization of the food supply network, and particularly of the fresh fruit and vegetable sectors, has increased a disconnection between consumers and their cultural connection to local food that began with the transition from rural to urban landscapes (Kingsolver 2007, La Trobe and Acott 2000). Supermarkets have played a large role in removing the connection between farmers and consumers. According to Lyson *et al.* (1995) when modern supermarkets appeared in the 1920s, farmers’ markets in the U.S. began to decline. This trend was fueled by an expansion of the urban core that further disconnected food production and consumption. Children today, when asked where food comes from, are apt to say “the store” rather than “a farm.” By acting as a middle man, supermarkets have increased the cost of food to the consumer, while shrinking farmers’ incomes. Supermarkets have necessitated more packaging, which has further inflated prices and contributed significantly to the waste stream.

Watts *et al.* (2005) suggest that the discussion of alternative food networks should focus on the networks through which food passes, rather than the ubiquitously popular “local = quality” food discussion of today (e.g., La Trobe 2001, Kirwan 2006, Brown 2003). Many, including academic observers and consumers themselves, explain the

purchase of local food in the context of quality – food is fresher, tastes better and has higher nutritional content (La Trobe 2001, Kirwan 2006, Brown 2003). ‘Notions of quality’ are seen in much of the literature surrounding alternative food systems and includes such themes as local and regional branding (Holloway *et al.* 2006, Feagan 2007), organic labeling (Watts *et al.* 2005), and quality assurance (Nygård and Storstad 1998, Tiffen 2002). However, notions of quality are subjective because they are dependent upon a number of individual experiences and thus vary widely, leading to difficulties in quantifying the benefit of local foods. Quality of the produce itself can also vary given seasonality, time of harvest and length of transport, for example. Shifting and expanding the discussion to include the networks through which food passes allows for a more complete and less subjective analysis.

Food Supply Chains are the many steps along the route on which our food products must travel on the way from the producer to the consumer. According to Feagan (2007), global-oriented food chains have emerged as the critical juncture for a diversity of issues that Local Food System efforts combat. As already noted, globalization has lengthened food supply chains, impacting food safety, local economies, pay prices, farm policy, packaging preferences and fossil fuel consumption as a consequence. Watts, *et al.* (2005) conclude that shortening food supply chains may be one method of building stronger alternative systems of food provision, but that ultimately what may work best is a “hybrid” alternative system characterized broadly into four categories: specialty (i.e. organic) foods, community (i.e. local) foods, commodity (i.e. conventional) foods, and publicly procured food. Shortened food chains analysis and advocacy is connected directly to respatialization and localization (Feagan 2007). Embeddedness, discussed in

terms of globalization, is a term connected to shortened food chains – Feagan (2007) describes a re-embedding of the “natural conditions of food production...restored as inherent spatial elements in agro-food systems,” (25) in contrast to industrializing food systems which are seen as displacing nature as a factor of production.

Local Food Systems is the umbrella term that Feagan (2007) throws over the diverse yet analogous systems described above. As he explains, common threads in the Local Food System discussion include the respatialization of food and concerns over:

...Rural community disintegration...the loss of ‘foodways’ and accompanying cultural traditions, soil and water degradation, and reduction of ecosystem, species and genetic diversity associated with industrial agricultural practices (33).

This study will focus on the role that local food production systems can play in meeting the needs of the alternative food system, in terms of community food security, respatialization of food, and specialty foods - both in the community and the specialty food categories. Organic and heirloom foods tend to thrive in the local farmers’ market scene. Awareness of local and seasonal eating has grown phenomenally with the publication of Barbara Kingsolver’s *Animal, Vegetable, Miracle*, a chronicle of her family’s adventures through a year of seasonal eating. The NPR radio show, “The Splendid Table,” recently hosted a Blog series about eating locally.

However, the definition of “local food” can vary widely. Residents of major metropolitan areas that span multiple states, such as Louisville (Kentucky and Indiana) or Cincinnati (Ohio and Kentucky) may define food from a watershed perspective, as they share a common watershed but different state lines. Others may consider local foods to be those that come from within a certain radius, such as 100 miles. The Kentucky Proud program defines a local product as one that was made in Kentucky. In Kentucky, many

farmers' markets will not allow vendors from another county to sell their wares, although they may not restrict where the product was grown. Local food production systems have been defined by the Soil Association, a non-profit that specializes in organic agricultural practices and certification in the United Kingdom, as:

A system of producing, processing and trading, primarily of organic and sustainable forms of food production, where the physical and economic activity is largely contained and controlled within the locality or region where it was produced, which delivers health, economic, environmental and social benefits to the communities in those areas (Nichol 2003).

Local labeling programs have provided a more formal means of quality control by creating a legal structure with which to recognize the geography of food (Nygård and Storstad 1998). Weakness in local labeling schemes has been recognized by Watts *et al.* (2005, 29) who claim that labeling efforts are only as strong as the regulatory systems that govern production and processing methods and our ability to quantitatively or qualitatively prove the benefits of these systems. Another potential pitfall of labeling schemes: they may be subject to commodity “fetishization.” An example is the organic food system. While generally a more environmentally friendly method of farming, industrial scale organic farming and shipping practices may ultimately have a larger environmental footprint than supporting a local farmer who utilizes “best management practices,” or even practices organic methods but does not have a farm that is certified to the USDA organic standard. Weakness of local labeling schemes as it relates to the Kentucky Proud brand and use of the brand by farmers' markets is a subject of concern to Kentucky market farmers, as will be discussed in this paper.

Foods that are protected by labeling schemes often are distributed through international food supply chains (Watts *et al.* 2005, Tiffen 2002, Barrett *et al.* 1999).

Examples of such foods include fair trade coffee and chocolate. The educational value of these labeling schemes for consumers should not be underestimated. Local labeling initiatives such as the Kentucky Proud brand tend to be generated close to home, but they still need to be adequately policed in order to maintain consumer trust and loyalty.

It is vital that we create alternative food distribution networks that can function in the absence of oil, especially in our inner cities, which are essentially food deserts because of the lack of urban agriculture and in many cases, any grocery stores other than a convenience store containing a bare minimum of foods with nutritional content. As communities begin transitioning to the reality of peak oil and higher gasoline prices, shrinking the food supply chain may become a necessity. Günther (2001) recommends a shift to diverse, small-scale farm operations integrated with human settlements as a potential solution to minimizing energy use in food transportation, which he claims is the largest single energy use of a family of four in Sweden, with 40,000 kWh relative to 19,000 for home and 15,000 for car use (62). This issue is also related to the discussion of shortened food chains, which shrink energy use and increase the bottom line to the farmer.

### **Economy of Local Food**

The economic viability of agriculture and its ability to sustain rural livelihoods is in peril in the United States today (Lyson and Green 1999, Moran *et al.* 1996 ). A loss of economic sustainability for farmers translates into a loss of a way of life as farmers are forced to give up both farmland and jobs (Holloway *et al.* 2006). Furthermore, especially when combined with concerns about food distribution networks' dependence on oil, losing farmers and farms calls into question the sustainability of our local, regional, and

national food webs (Friedland and Goodman 1993, Gunther 2000, LaTrobe 2001).

According to Winter (2003), a strengthening of political economy approaches in the geographical literature has led to the examination, within agro-food geography, of issues along the food chain, and thus a (re-)discovery of consumption and the discovery of culture within economic geography has occurred (505).

Numerous studies have researched and documented the economic impacts of farmers' markets and rural economies (La Trobe 2001, Lyson, *et al.* 1995, Lyson and Green 1999, Shakow 1981). In the UK, farmers are encouraged by governmental bodies to develop an understanding of how markets are changing - becoming more uncertain, segmented, less subsidized - and to reconnect with the market directly (Winter 2003). Winter (2003) identifies trade policy and the alternative food economy as two key drivers of this reconnection (506).

The contributions of farmers' markets to the local economy are substantial (Pretty 1998, Lyson *et al.* 1995, Lyson and Green 1999, Shakow 1981). Local marketing schemes combat aggressive corporate mass marketing and distribution patterns that drain money away from local economies (Lockeretz 1986, Lyson, *et al.* 1995, La Trobe 2001). Those who process goods and services retain most of their value (La Trobe 2001, Worstell 1995). Therefore, the trend of conglomeration of food processing activities means that most of the value of local food processing is being drained away from local communities. Alternative marketing schemes have been dwindling in the last 40 years (Lyson *et al.* 1995, La Trobe 2001, Pretty 1998) and revival of alternate markets will be crucial to the survival of small-scale local producers (Worstell 1995).

Farmers' markets circumvent expensive distribution and transportation networks,

minimize consumer costs, and maximize farmer profits (Shakow 1981, Günther 2001). Farmers' markets have been found to provide vital sources of revenue for three types of local producers: the full-time grower, the part-time grower, and the artisan/craftsperson (Lyson *et al.* 1995). Economic benefits are available to the consumer, who often garners a lower price than that available in a grocery store, due to less distribution and marketing costs (La Trobe 2001, Lockeretz 1986, Shakow 1981, Sommer *et al.* 1980). However, many studies discuss the role of price in product selection at farmers' markets and find that consumers choose product based on additional factors relating to social, environmental, and health concerns (Brown 2003, La Trobe 2001, Nygård and Storstad 1998). Profiled consumers at farmers' markets in southeast Missouri tended to be higher-income, well educated (Bachelor's degree or higher), older, and grew up on a farm or had parents who grew up on a farm (Brown 2003).

Farmers' markets have been found to foster entrepreneurship and community development in non-metropolitan areas by reducing the costs and risks for smaller scale, informal, or household based producers to enter the marketplace, thus acting as economic incubators (Lyson *et al.* 1995, Shakow 1981). For a rural community, direct marketing of a rural product keeps a higher percentage of its value in the local economy. At the turn of the century in the US, the farmer received 44% of every consumer dollar spent, but by the 1990s the farmers' share of the consumer dollar was 9% (Pretty 1998, 155). Direct marketing eliminates the middleman, allowing the farmer to retain the bulk of profits- farmers who sell retail at a farmers' market are likely to retain up to three times more profit than for product sold wholesale (La Trobe 2001).

Direct marketing can be especially helpful for the part-time or small-scale



producer. Shakow (1981) states:

Economies of scale in production can be substantially offset by more direct linkages in marketing. It is highly conceivable; therefore, that a sustained revival of the farmers' market could prove of genuine benefit to local farmers, and thus help sustain agricultural activity within the region (75).

Farmers often reinvest market proceeds into their farm, or spend it in their rural community, further strengthening the local rural economy (Lyson *et al.* 1999, Pretty 1998). One study of the Swedish agricultural system indicates that the numerous links in the Food Supply Chain referenced above make up more than 75% of food prices in Sweden, and that farmers could increase their income five-fold or more if consumers paid half the price that they do, but gave the money directly to farmers (Günther 2001).

The fact that much of the available literature regarding alternative food systems is from Europe (see Kirwin 2004, Kirwin 2006, Gunther 2001, Pretty 1998, Nygård and Storstad 1998) illustrates that the European Union is a few steps ahead of the U.S. regarding understanding of, and interest in, the local food movement. However, it does seem reasonable to suppose that much of the experience gained in Europe could be employed in the U.S., as both nations are developed market economies undergoing a transition in response to consumer demand for small-scale, local, and/or ecological farm products (Barrett *et al.* 1999, Brown 2003, La Trobe and Acott 2000, La Trobe 2001, Lockeretz 2003, Watts *et al.* 2005, Stagl 2002). In the global economy, information, interests, and fads tend to cross the ocean quickly. American citizens may begin demanding a safer food system if food scares persist, particularly if they continue to get high levels of media attention. In terms of economic policy, environmentally friendly paradigms have not made it on the radar screen as an important component of 'legitimate common welfare' described by western society (Kirwan 2006, 303).

### **Calls for Further Research**

Winter indicates that there is a shortage of economic geography studies highlighting issues of income inequalities resulting from differential access to places of consumption (2003, 505). However, Winter says, the shifts in attention by various agro-food authors to food chains and consumption reflect the shift from a homogeneous agricultural commodity market to a more segmented market, and “Crucial to this shift of attention towards both food system and consumption issues is the need for reconnection or, indeed, new connections,” (Winter 2003, 505). The goal of my research is to further the discussion of ‘new’ connections between farming and food consumption.

Winter (2003) also notes that research conducted this far on impacts of the WTO and its reform processes has not directly focused on the issue of reconnecting farmers to their markets, and that the direct impacts of WTO liberalization measures have not been given much attention by geographers, despite the geospatial impact of such policies (507). However, he goes on to note that the second driver of reconnecting farming to food (the first being trade policy directives such as those being handed down by the WTO) is the alternative food economy. A local policy reform decision that has ultimately funded dozens of local markets was Kentucky’s use of the tobacco settlement money. This connection between food and policy will be explored, along with the ensuing connection between food and farming – as urban consumers interact with farmers, an understanding of the relationship between food and farms develops.

The need for more research into the complex motivations for both the producer and consumer involvement with farmer’s markets has been called for by Kirwin (2004). Alkon, who identifies and contrasts the social construction of the environment in a low-

income, minority food insecure community with that of an upscale, white neighborhood in a neighboring city, notes that further work is needed in terms of sustainability where people actually live, work, and play as advocated in the Environmental Justice paradigm (Alkon, 2008b). Alkon (2007b) goes on to state that, “by defining the environment as the places where low-income people and people of color *are*, rather than where they are *not*, ecological issues are clearly connected to issues of inequality,” (272, italics original). Thus, it is essential that market leaders, in cooperation with local community members, find ways to bring a diversity of ethnic, socioeconomic strata into the market customer and vendor base. This issue is considered in the context of Kentucky markets. Barriers to socioeconomic diversity in the farmer’s market landscape are considered, and some policy recommendations are presented.

This research will seek to address the interplay of new connections in agricultural and urban systems by identifying where, why, and how these connections are occurring in Kentucky’s farmer’s market realm. The degree to which farmer’s markets have driven a new connection between food and farming is discussed by identifying customer and farmer motivations for market participation. The relationship between the socioeconomic status of communities and the presence or absence of a market in a community is explored. In a similar vein, the study seeks to address barriers to the presence of a diverse customer base at markets around the state.

### **Chapter 3: Data Sources and Methodology**

The study uses a mixed methods approach, combining quantitative and qualitative analysis. Research began with geographic and statistical analysis of a database of farmers markets in Kentucky, followed by a qualitative, primarily open-ended survey of people who serve as points of contact for markets around the state. A second phase of research used a case study of a single farmers' market, allowing deeper insight into the reasons those farmers and customers support farmers' markets in Kentucky and some impacts of the market on farmers, consumers, and the local economy. A broad survey of farmers' market customers was followed by qualitative, open-ended interviews that provide detailed information from farmers.

This paper begins with an introduction to the case study market, followed by an overview of farmers' markets in Kentucky. To assess what factors are driving the growth of farmers' markets in Kentucky, first a geospatial analysis is employed that illustrates the distribution of farmers' markets around the Commonwealth. Choropleth maps are used to portray spatial patterns of market distribution in the state, and to depict the distribution of market variables against the backdrop of urban classification, household income, and education levels. Three key market characteristics are analyzed – market vendors, gross sales, and age. These factors are considered through statistical analysis and through the use of GIS to explore spatial relationships.

Data from 121 farmers' markets in Kentucky were used to conduct a series of non-parametric statistical analyses that compare patterns of farmers' market development in metropolitan, micropolitan, and rural areas of the state. Summary statistics and histograms of the farmers' market data to be used for Kruskal-Wallis analysis were

analyzed to determine the normality of the distribution, and to help determine the variance and confidence level for analysis. The histograms were used to assess the shape of the distributions of different variables as a means of data exploration in preparation for Kruskal-Wallace analysis, which assumes similar distributions between samples. The histograms are not suitable for comparing across classes because the axes are not similarly scaled. This is due to large differences in the scale of data among urban classes. Analysis of the summary statistics can also allow for assessment of outliers or find errors in the data. Scatterplots and Pearson's Linear Correlation Analysis were used to indicate the strength of relationships in the data.

Are the processes that generate markets different in different kinds of places? To identify whether or not Kentucky's rural, micropolitan, and metropolitan markets are significantly different in terms of their age, number of vendors, and ability to generate gross market sales, statistical analysis was performed on those variables. Statistical analysis involved use of the Kruskal-Wallace test method, a non-parametric test similar to the parametric three-difference-sample-of-means test, which ranks the data and compares the means of the ranks among groups (McGrew and Monroe 2000). Use of a non-parametric test was required because the data were not normally distributed for any of the data sets. The data set as a whole, and when divided into urban classification subsets, had a number of ties which required the employment of a correction factor. The Kruskal-Wallace method allows a researcher to determine if one or more samples come from the same population. The alternate hypothesis is that at least one of the samples is drawn from a different population.

Is there a significant difference between metropolitan, micropolitan, and rural areas in terms of market strength, as measured by gross sales, number of vendors, number of years in operation, or other measures? I hypothesize that a difference will exist among the populations. Thus, the null and alternative hypotheses are as follows:

$$H_0: \mu_1 = \mu_2 = \mu_3$$

$$H_A: \mu_1 \neq \mu_2 \neq \mu_3$$

In terms of specific variables, the alternative hypothesis asserts that markets in metropolitan areas may have greater sales volumes, a higher number of vendors, and more longevity in terms of years in operation than micropolitan areas. Likewise, micropolitan areas could be expected to have larger numbers in terms of vendors, sales volume, customers, and years in operation than rural areas. These trends are also illustrated through geospatial analysis.

### **Data Sources**

Data collected for statewide statistical analysis includes both primary and secondary data. Secondary data includes the 2008 Kentucky Department of Agriculture's annual farmers' market survey database. The database contains the number of vendors, annual income, and number of years in operation for each reporting market in the state. The database was originally gathered as part of a voluntary farmers' market annual report produced by the state Department of Agriculture (Eaton, 2008). Farmers' markets that participated in the 2008 Kentucky Department of Agriculture (KDA) farmers' market survey make up the population used for statistical analysis. It should be noted here that not all market leaders in the state participated in the KDA survey. The missing data points reflect new markets and other markets that did not participate in the survey for

unknown reasons. In addition, not all markets in the survey reported on all of the variables discussed in this report. When possible, missing data points were obtained by the researcher via phone calls and emails to individuals listed as the contact for various markets in the database. However, much of the information sought was simply not available due to organizational turnover or lack of reporting (market gross sales were the least reported variable).

Primary data was collected directly from farmers, market points of contact, and market consumers via surveys and interviews. Farmers and customers were promised anonymity during surveys and interviews. Most experts in the field, speaking on the record in their official capacity, are cited unless they requested otherwise.

Secondary data were analyzed in ArcGIS 9.3. Shape files were obtained from the Kentucky Division of Information and ESRI. Attributes in the dataset, such as population and household income, were secondary data collected by the U.S. Census Bureau, the University of Louisville, and the KDA 2008 Farmers' Market Survey. The coordinate points for the generation of an Albers Equal Area Conic Projection used in the map were accessed through AEGIS, an institution of Jacksonville State University (AEGIS 2010). Kentucky county population levels for 2008, projected by the U.S. Census Bureau using 2000 census data, were gathered from the U.S. Census Bureau website (U.S. Census Bureau 2000). Population projections for 2008 were considered most appropriate when analyzing a 2008 farmers' market database.

#### *Boundary Delineation and Urban Classification of Kentucky Counties*

The choices for boundary delineation can and do impact the statistical values that are calculated in this study, a common problem in geographical studies. In this case,

boundary delineation is a concern due to the fact that a number of Core Based Statistical Areas in Kentucky, Indiana, Tennessee, West Virginia, and Ohio cross state lines. In part to limit the scope of the study, the data set is limited to the boundaries of the Commonwealth of Kentucky. This means that in a number of cases, larger markets and populations across the state line are not included in statistical analysis. A larger and more inclusive study might yield significantly different statistical results. However, in order to consider the effect of state level policies and practices of funding farmers' markets it is beneficial to limit the study to the region in which these markets are funded (Kentucky).

Both metropolitan and micropolitan statistical areas, also known as Core Based Statistical Areas (CBSA), are geographical units regularly defined by the U.S. Office of Management and Budget (OMB) for the purpose of statistical analysis, and were last determined in 2003, based on the 2000 census. These units contain one or more counties and include the county or counties containing the core urban area, as well as any adjacent counties that have a high degree of social and economic integration (as measured by work commuting) with the urban core. This analysis uses Core Based Statistical Areas as the mechanism for defining and dividing Kentucky counties into three urban classes: metropolitan, micropolitan, and rural. Core Based Statistical Areas often include metropolitan and multiple micropolitan areas, separately denoted by the OMB due to connectivity, into one larger unit. This study will focus primarily on the smaller units, comparing individual metropolitan and micropolitan counties to each other.

According to the U.S. Census Bureau, in the year 2000, 80.3% of the U.S. population lived in metropolitan regions, 8.1% lived in micropolitan areas, and 11.6% of the population lived in rural areas. A market is classified as metropolitan if the county in



which it is hosted has a core urban area with a population of more than 50,000, or if it is part of a Metropolitan Statistical Area (MSA). Markets are classified as micropolitan if the area contains an urban core of greater than 10,000 people but less than 50,000, or if the county is linked to a Micropolitan Statistical Area (McSA) through commuting or other factors. All counties not specifically defined by the OMB as part of a micropolitan or metropolitan statistical area are considered rural counties.

As an example, Figure 1 identifies the Kentucky counties that are listed as a part of the Cincinnati-Middletown, OH-KY-IN, Metropolitan Statistical Area (MSA). All Ohio and Indiana counties have been removed from the list. Looking at the table, it is evident that Bracken and Gallatin counties, with less than 10,000 people, would be considered rural counties if they weren't linked to the MSA. Both Pendleton and Grant counties would be considered to have micropolitan county population levels (between 10,000 and 50,000). The U.S. OMB has defined all of the counties in this table as falling within the boundaries of the Cincinnati-Middletown MSA due to their strong economic ties with the metropolitan core. Thus, they are all considered MSA counties for the purpose of statistical analysis, as residents of these rural counties commute to the core metropolitan areas, many shopping in the area before returning home.

### *Quantitative Analysis: Data Collection*

Markets reported only a portion of the data requested in the Kentucky Department of Agriculture survey. In the KDA database, 56% reported on income, 97% reported on number of vendors, and 87% reported on the age of their market. Complete data, that is, market income, number of years in operation, and number of vendors, was available for 19 of the 60 metropolitan markets (32%), 16 of the 26 micropolitan markets (67%), and

22 of 33 rural markets (66%). Statistical analysis for each variable was performed on all markets reporting that variable. With a limited data set (121 markets divided into three categories), the study is made more robust with the inclusion of all available data, and thus the markets analyzed do not represent a random sample.

County	2008 Population, Projected	Urban Classification
Boone	115,231	Metropolitan
Bracken	8,569	Metropolitan
Campbell	87,038	Metropolitan
Gallatin	8,035	Metropolitan
Grant	25,549	Metropolitan
Kenton	157,629	Metropolitan
Pendleton	14,992	Metropolitan

**Figure 1. Cincinnati-Middletown Metropolitan Statistical Area Population Levels and Counties (Kentucky Only).**

#### *Qualitative Analysis: Data Collection*

##### Market Surveys

A survey of 121 farmers' markets was also conducted for this study. The survey examined how policy issues may be influencing farmers' markets. Surveys were completed by the market's primary point of contact, generally a market manager or board president, as obtained from the Kentucky Department of Agriculture database. The surveys were sent out electronically via email and were collected electronically using Survey Monkey, an online survey service. Hard copies were sent out to all market points of contact for which an email address was not available, including those that bounced back due to email address changes. Those surveyed were asked to respond to the survey within three weeks and a 38% response rate of 46 survey participants was achieved. The survey results have both quantitative and qualitative aspects, and will be referenced throughout this paper.

## Customer Surveys and Vendor Interviews

The case study utilizes locally collected customer surveys (random, self-selected participants) along with interviews of self-selected market vendors and experts in the field. Interview subjects are anonymous, and only individuals speaking in an official capacity, such as an agricultural extension agent, are identified. The researcher was intimately involved in the creation of the Southern Kentucky Regional Farmer's Market, assisted in forming the board, writing the bylaws, and more recently, the researcher's family farm began vending at this market. This relationship with market founders and members could certainly have influenced the level of trust and participation found throughout the interview component of research by making research participants more willing to engage in the project and answer questions accurately and directly.

Qualitative data in the form of interviews with producers that market directly, attempt to determine the reasons for and impact of direct marketing. Interviews were conducted over the course of four separate days, primarily at the vendors' homes but also in public locations on occasion. Interviews were not conducted at the market. Reselling at farmers' markets is considered in terms of how the practice impacts the producer at farmers' markets. Producer perspectives as to why customers choose to shop with them are shared.

In designing research questions for the qualitative component of the research, the goal was to create broad, open-ended questions that would cause producers and consumers to consider the reasons for their participation in farmers' markets. Creswell (2003) recommends the research questions be general in nature in order to facilitate the broadest response possible. However, questions directed attention to the practices of

direct marketing and of reselling at farmers' markets. Questions were included that allowed the comparison of vendor perceptions of customer interests with the customer surveys taken at the market. The data was analyzed through commonly practiced qualitative methods, including interview transcription, identification of common themes, and highlighting of relevant quotes and anecdotal evidence.

### **Southern Kentucky (SKy) Regional Farmers' Market Case Study**

The results of the case study are interspersed throughout the report, however, for background reasons an introduction to the market is included here. A collaboration between citizens, farmers, and government from the beginning of the market meant that a diverse group of representatives was present through the entire process of market formation, including the writing of the bylaws. The Board of Directors of the market is different from many other markets in that it is comprised of a blend of 50% farmers and 50% community members.

#### *Purpose and Reason*

At the heart of the market is the requirement that one must produce what he or she sells at the market. In the by-laws, the purpose of the market is stated as follows

(Southern Kentucky Regional Farmers' Market, 2005):

1. To provide Kentucky growers and craftsmen with an outlet for the sale of freshly-picked produce and related agricultural and horticultural products and crafts.
2. To foster an appreciation for Kentucky's rural resources.
3. To develop sources of marketing, management, and agricultural information for its members.
4. To operate a producer-only farmers' market where the re-selling of any item is strictly prohibited.

5. To encourage growth of the local/regional food supply by promoting closer ties between local producers and consumers.

### *History of the SKy Regional Farmers' Market*

The Southern Kentucky Regional Farmers' Market was formed by a group of farmers and multiple other stakeholders, including the Extension Office, the Downtown Redevelopment Authority, a Kentucky House Representative, and key consumers. According to one of those stakeholders, the market was formed because, "farmers in the area were dissatisfied with the existing 'farmers market' where real, local growers were excluded from the market so that resellers could have the biggest "slice of the pie." The "existing market" described is the Original Bowling Green Farmers' Market, located on Scottsville Road, a busy thoroughfare in a major shopping center. The Original Bowling Green Farmer's Market also had in place a policy preventing farmers from adjacent counties from selling at the market, which strongly limited the vendor base. The author, who helped initiate the formation of the SKy market, was also not allowed to sell at the market, despite submitting an application on time and being a Warren County resident. With four acres of vegetables already in production at the time of market entrance denial, the author and her husband took matters into their own hands, collaborating with farmers frustrated with market politics and bringing together these farmers with other key community leaders who were interested in the benefits that a market might bring to the downtown area of Bowling Green.

The market is located in the city of Bowling Green, a metropolitan county in South Central Kentucky with a projected population of 105,862 in 2008 (U.S. Census Bureau, 2000). The market was originally established at the corner of 31-W and Cemetery Road, a busy intersection, in a strip mall parking lot that contains a grocery

store and two fast food restaurants. The market was also near a well-to-do part of town. Use of the lot was free and temporary signage was erected on market days. The market was at that location from 2004 through 2006.

In 2007 the market moved to its current location in the parking lot of The Medical Center. The move was precipitated by the sale of the plaza, which was sold twice while the market was located there. Subsequent Plaza management companies were increasingly difficult to work with, especially as compared with the original landlord, who was personally supportive of the market and had been quite accommodating. New management demanded increased rental fees that exceeded the total income of the market from membership and stall fees, and expected the market to have an active presence 52 weeks out of the year.

A committee was formed to identify potential new locations, and when the Medical Center was suggested and approached, they were very receptive to hosting the market. The new location is also at a busy intersection on 31-W, now across the street from a Kroger (a chain grocery store). The market is equally situated on a main thoroughfare between two well-to-do parts of town. However, the market is constrained in terms of its current space agreement with the hospital, which limits vendor booth availability and thus the number of vendors that can participate. This may actually benefit current market vendors, as they indicated that the customer base is not growing at the same rate as the number of vendors. In other words, as the market has grown in vendor strength, the pool of money spent at the market has been spread out over more vendors. Market leaders need to find a way to grow the customer base in order to expand further. Several vendors noted that they felt the community could support another market

in a different part of town because people don't want to drive across town to run their errands.

The SKy Market presence in the landscape was established through the efforts of two key farm families who served as the initial anchors for the market and who continue to exert a strong leadership presence at the market. These anchors brought a number of customers who patronized their business at the Original Bowling Green Farmers' Market, to the new market. The market was also aided by the early appearance of a baker from an adjacent county who was unable to sell at the original farmers' market due to a policy excluding non-Warren County residents. This vendor had been struggling to make ends meet, selling at the local flea market, which did not produce adequate sales for the business. The baker was able to sell at both the flea market and the farmers' market and the added business helped to keep them afloat during a critical time on the farm, when they had lost many of their cows and nearly gone bankrupt. After becoming established at the market, the baker also began bottling milk in glass and selling that at the market, greatly increasing the diversity of product at the market.

### *Bylaws*

Due to frustrations with policies in place at the Original Bowling Green Farmers' Market, tremendous care was taken in writing bylaws and market guidelines for the SKy Market, a process that lasted one year from start to finish and culminated in a market that was considered by all vendors interviewed for this study to be a success. Market bylaws vary around the state and there is no one standard for them, but the SKy Regional Farmers' Market bylaws have become a popular resource used by many markets wishing to address the issue of resale since the market was formed in 2004, indicated Janet Eaton,

who served as the Farmers' Market Coordinator for the Kentucky Department of Agriculture and who actively promoted the by-laws to other markets until her retirement in 2008.

The bylaws were designed to protect the market from the practice of resale and to encourage a mix of products at the market. The prohibition of resale is a key difference between the SKy Market and the Original Bowling Green Farmers' Market. Another key difference between the two markets is that the bylaws of the SKy Market allow any producer to participate, regardless of their geographic location, with the premise that vendor travel to the market will be self-limiting – as confirmed in interviews and surveys, most vendors won't travel more than roughly 75 miles to sell at a market. The inclusion of this broader population has contributed to the ability of the market to retain a large number of diverse vendors. The bylaws are included in Appendix A.

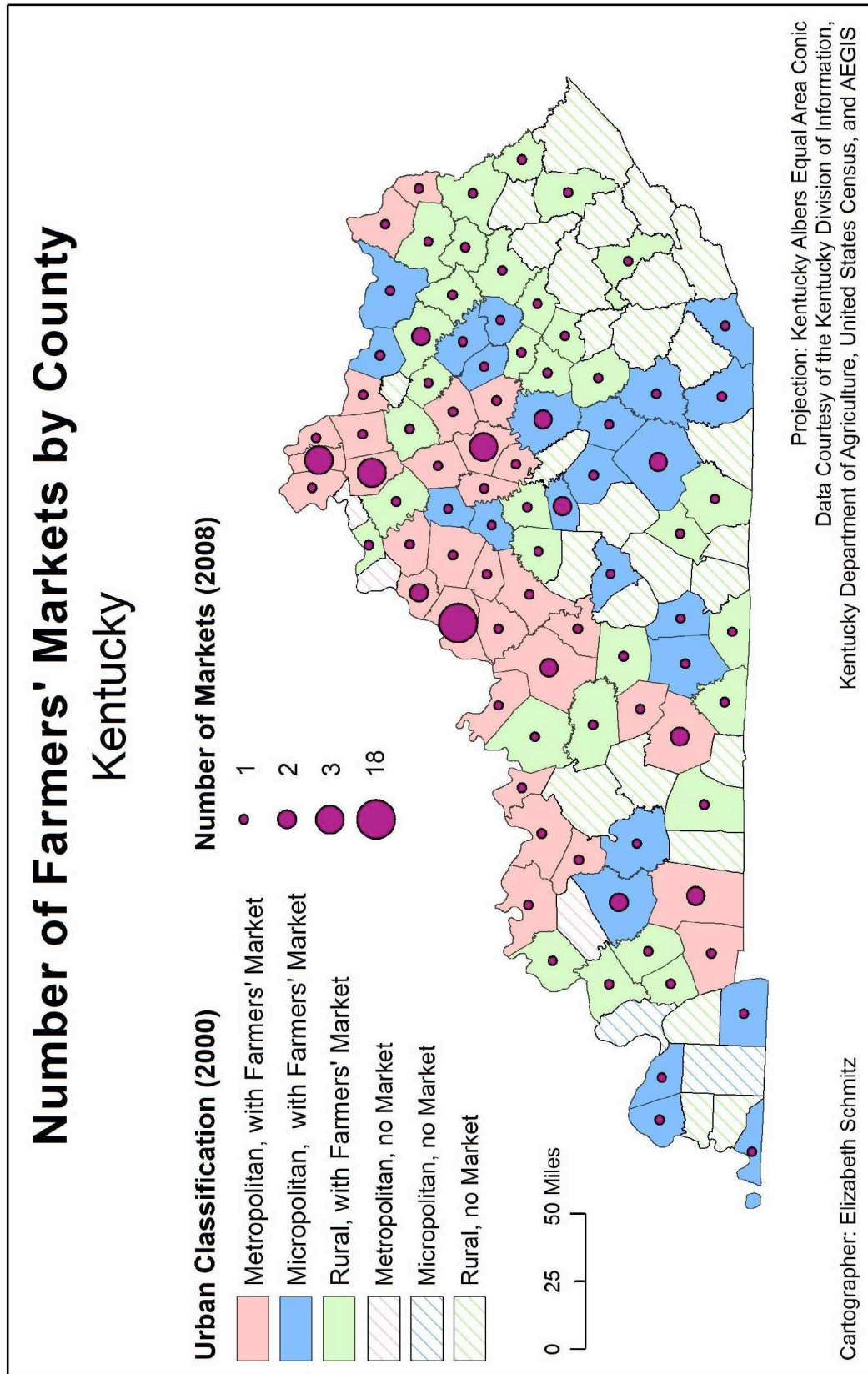
Over 200 customers were surveyed in July, 2004 at the SKy Market's original location in Fairview Plaza, which changed in 2007 when the market moved to the Medical Center. No surveys have been conducted since the market changed location but are recommended for future work. The surveys addressed the following questions:

- What are the characteristics of the market or the products that induce customers to shop there?
- Are shoppers interested in buying local products, and/or aware that all products at this particular market are sold by the producer, or is that a factor in their choice to shop at this market?
- What are the main reasons for farmers and consumers choice to utilize direct marketing, particularly at farmers' markets?
- Do consumers indicate a conscious shift towards an Alternative Food Network?
- Demographic customer data

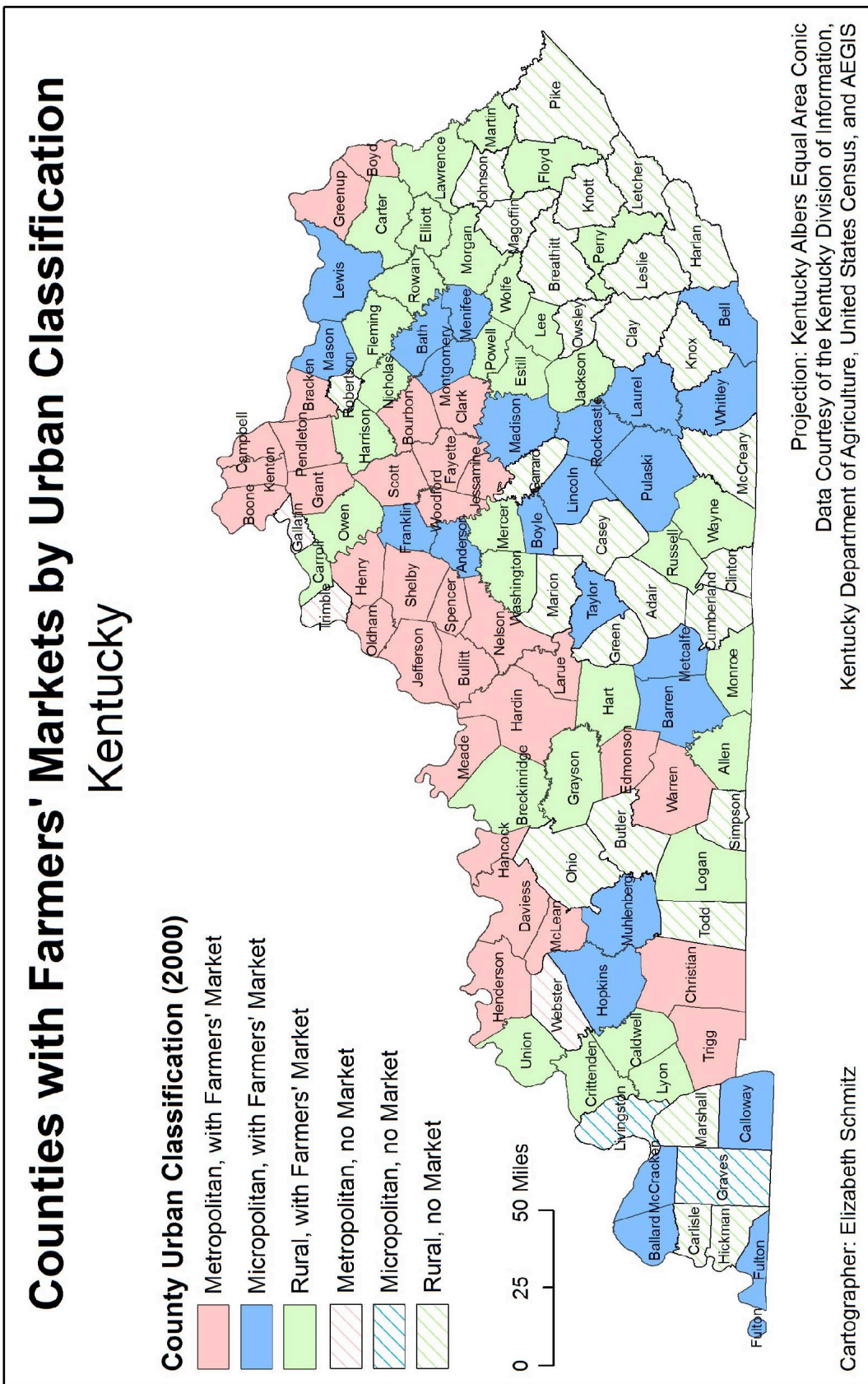


#### **Chapter 4: Results - Farmers' Markets in Kentucky**

With Kentucky's rural heritage, it seems obvious that the Commonwealth would have a strong network of farmers' markets, and indeed it does (Figures 2-3). Overall, the distribution of markets throughout the state is relatively even. However, there are market hot spots, generally near larger cities (Figure 4), and in other parts of the state, farmers' market dispersal is thin. Of all counties in Kentucky, 27% have no market (Figure 3). Although there is an average of one farmers' market per county, markets are not uniformly distributed across the state, and metropolitan areas tend to have more markets than micropolitan areas, which in turn have more than rural areas. In fact, rural areas have roughly one market in every other county (0.55 markets per county), micropolitan locales tend to have one market per county (1.00 markets per county, although not all counties have a market), and metropolitan areas have nearly two markets per county (1.66 markets per county). This suggests that market presence in the landscape increases with population (Figure 5). This is a common phenomenon in geographical studies, where many variables are positively correlated with population – as the population increases, so does the variable that is dependent upon population. For example, retail locations tend to increase with population, as is demonstrated in central place theory (McGrew and Monroe, 2000). In Kentucky, farmers' market presence in the landscape, gross market sales, and vendor strength generally increase with population levels. Household income and education levels also tend to be higher in more populous counties. However, the age of markets was not found to be totally commensurate with population concentration. Nonetheless, farmers' markets appear to be a phenomenon influenced in large part by population, as evidenced in Figure 2.

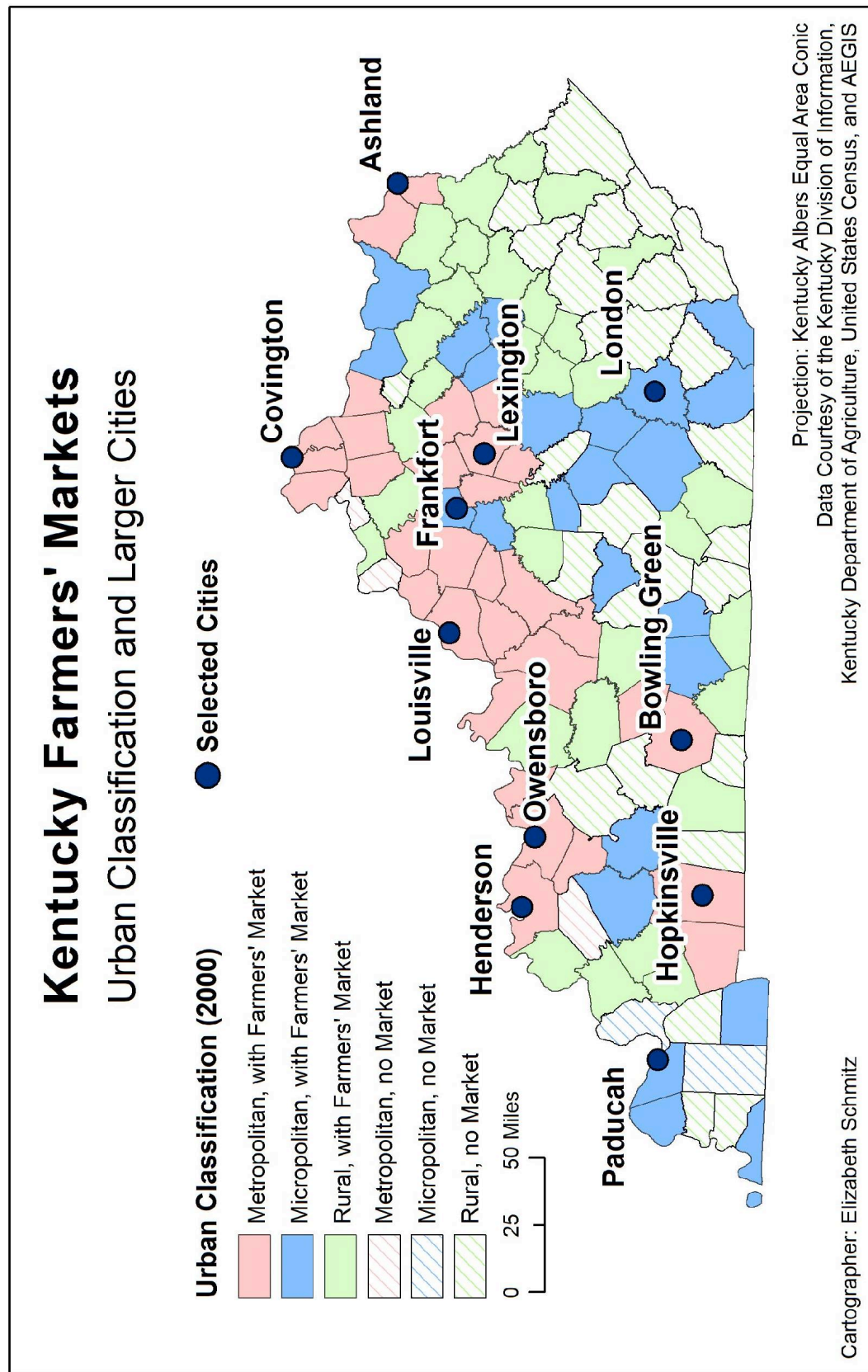


**Figure 2. Number of Farmers' Markets by County**



**Figure 3. Counties with Farmers' Markets by Urban Classification**

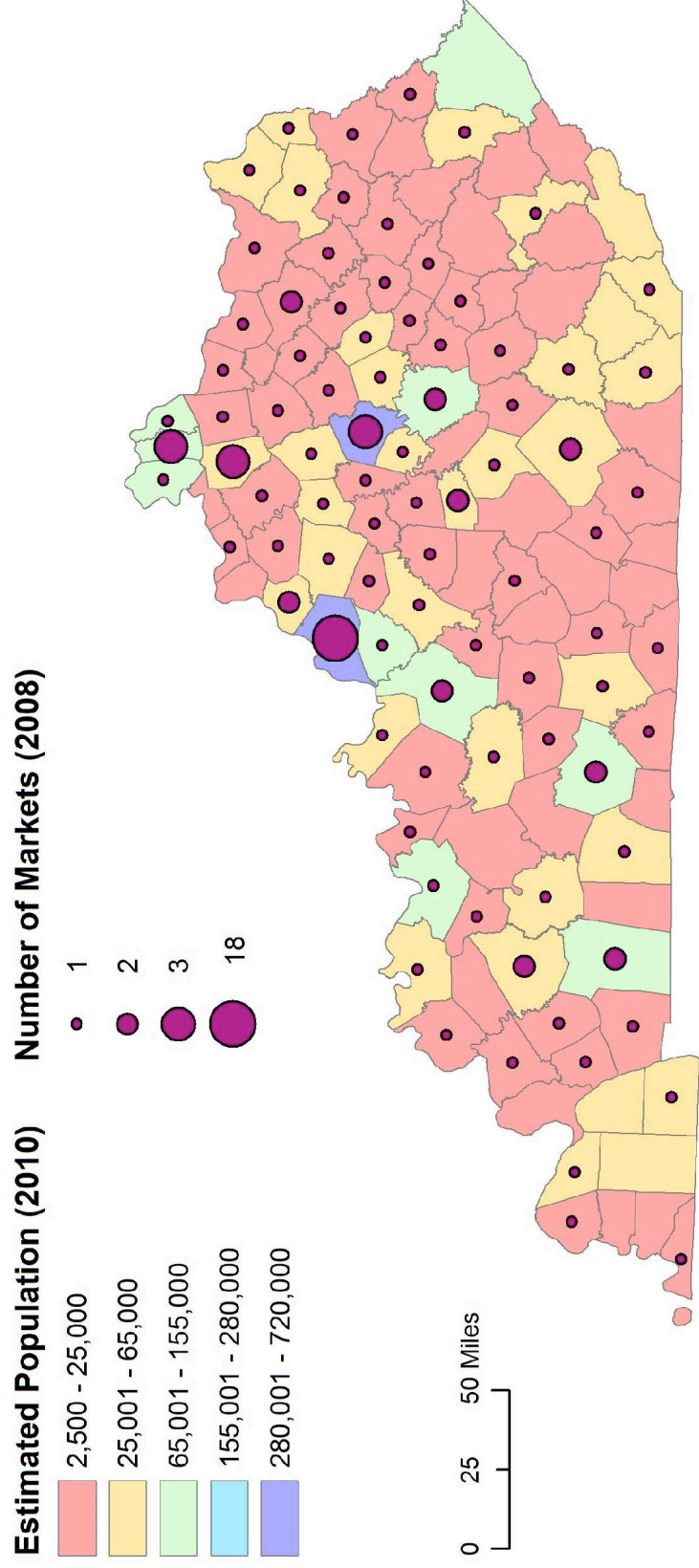




**Figure 4. Kentucky Farmers' Markets: Urban Classification and Larger Cities**

# Population and Number of Markets per County

## Kentucky

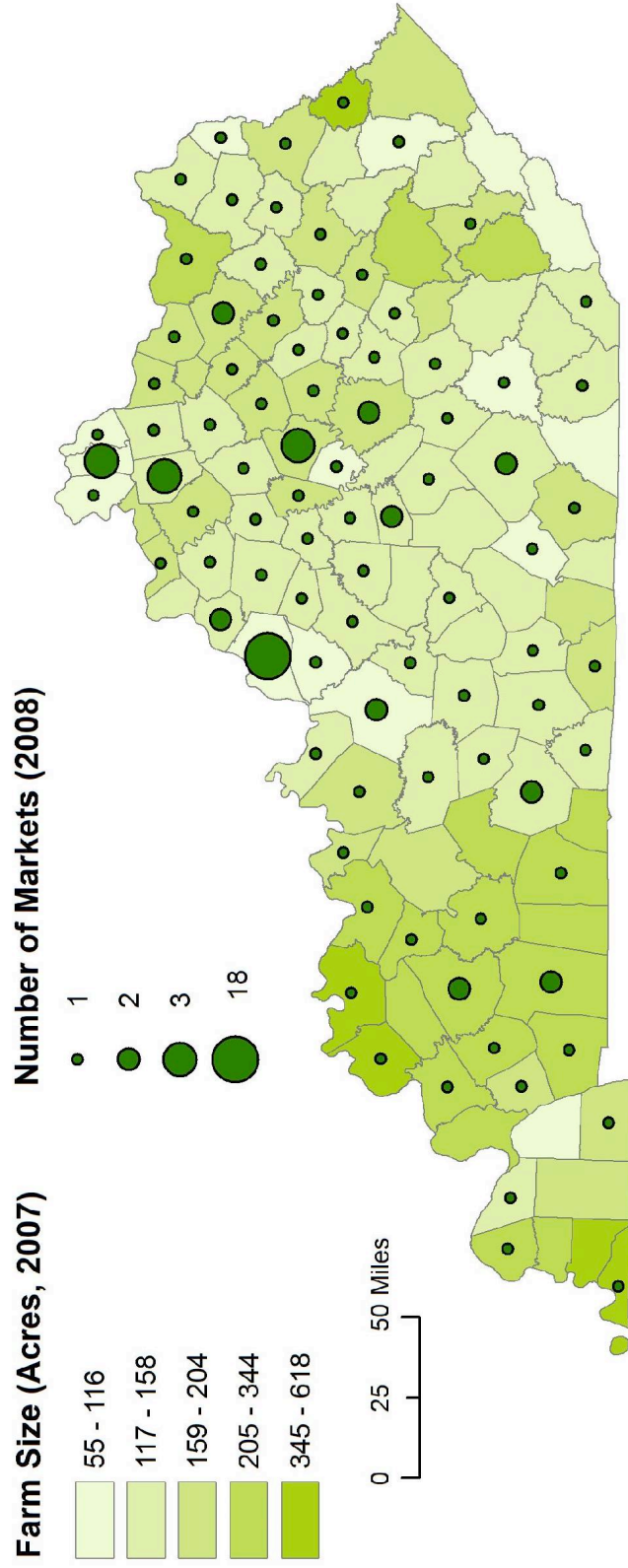


Cartographer: Elizabeth Schmitz

Projection: Kentucky Albers Equal Area Conic  
Data Courtesy of the Kentucky Division of Information,  
Kentucky Department of Agriculture, United States Census, and AEGIS

Figure 5. Population and Number of Markets per County

# Average Farm Size and Number of Farmers' Markets Kentucky Counties



Projection: Kentucky Albers Equal Area Conic  
Data Courtesy of the Kentucky Division of Information, Kentucky  
Department of Agriculture, United States Department of Agriculture, and AEGIS

Cartographer: Elizabeth Schmitz

**Figure 6. Average Farm Size and Number of Farmer's Markets by County**

## **Markets by Category**

### *Metropolitan Areas*

Metropolitan areas tend to have a highly concentrated population core and associated urban sprawl, expanded offerings of goods and services, and a larger tax base than rural or micropolitan areas do. Metropolitan areas by definition have at least 50,000 people closely allied to the urban core through commuting and other factors. There are 35 Metropolitan Statistical Area counties in Kentucky, of which 32 have farmers' markets, with 58 markets total. Every MSA in Kentucky has at least one farmers' market, and in fact, out of all the metropolitan areas and counties within those areas, only three counties have no market (Figure 2). In this case, the median value - which is the best measure of central tendency for a group - gives the more accurate indication that most metropolitan areas have one farmers' market per county.

Three counties have no markets, one county has two markets, four counties have three markets, and one county (Jefferson) has 18 markets (Figure 2). The average number of markets per county in metropolitan areas is 1.73 - however, this distribution is skewed due to the concentration of markets in Jefferson County. Skewness, which measures the asymmetry of the distribution about the mean, in this case is positive and therefore shows fewer values on the right side of the distribution - in this example, all other counties have fewer markets than Jefferson County contains. The Jefferson-Louisville KY-IN MSA has a population of nearly 1.5 million, and 26 markets - nearly half of all markets in metropolitan areas of the Commonwealth - are found in this MSA on the Kentucky side of the river alone. Population is likely to be a driver in this scenario, as Jefferson County has 2.5 times more people than the next most populated county, and the Louisville/Jefferson County KY-IN MSA is the 42nd largest MSA in the

country (U.S. Census Bureau 2000). Agricultural Extension agent Denise Peterson, the key agent involved with farmers' markets in Jefferson County, explained that there are a number of reasons for Jefferson County having a high number of markets. These include strong neighborhood affiliations, the growth of niche markets that cater to certain days or populations, and an attempt by multiple stakeholders, including her office, to address food deserts in the county. An overarching farmers' market organization does not exist for Jefferson County, although much of the farmers' market development work was conducted by the Food and Neighborhoods Committee, part of the Mayor's Healthy Hometown Initiative. The Healthy Hometown Initiative is staffed by the Jefferson County Health Department, YMCA, and the United Way, so a number of professionals worked on the Food and Neighborhoods Committee and contributed towards the development of farmers' markets in the county. Most of the markets in the county have an internal structure, board of directors, bylaws, etc., Ms. Peterson indicated. This is true of most, but not all, markets in the state. Internal organization and stakeholder diversity in market formation and internal structure was mentioned as essential for market success in the survey of market leaders conducted statewide.

A variety of stakeholders have been involved in forming Jefferson County markets, from governmental entities such as the Extension Office, to neighborhood associations, churches, and community volunteers. One Louisville market began as a means of meeting a church-wide goal to improve the health and well-being of church members. At this market, which has grown to 60 vendors in three years, businessmen formed the backbone of the Formation Committee, and Extension was the only outsider on the Committee. The market committee created a publication for distribution to



potential vendors that highlighted the amount of disposable income in the neighborhood, the number of people within walking distance to market, and parking availability. This promotion attracted the attention of vendors and drew them to the market. The market had broad support from the church members, with 95% of the members of the church supporting the formation of the market. Members were made aware from the initial planning stages of the potential impacts of hosting the market on church grounds, such as the inability to park onsite on market days, from the beginning. While access to the church is limited on market days due to the full parking lot, members of the church have maintained strong support for the market. A large number of church members frequent the market, and it has also become a popular neighborhood destination.

In contrast, the Southwest Market in Louisville was formed by an incredibly diverse group of people, according to Ms. Peterson. Community volunteers became the backbone of the market, which was initiated by a young retired couple who wanted to create some amenities for the neighborhood, including a farmers' market. They worked hard to develop partnerships, and Metro United Way founded the market, while other partners included Christian Ministries, farmers, local volunteers, and political representatives, including the district councilman and the assistant to the U.S. Representative from the area. These stakeholders participated in planning meetings because they thought getting a market in the area was important for local food security and quality of life.

Jefferson County's strong neighborhood affiliation means that most neighborhoods and district councilmen want their own markets, Ms. Peterson explained in conversation. When asked to comment on if the primary driver of the number of

markets in the area involved neighborhood residents not willing to drive to another neighborhood to shop at a farmers' market there, Ms. Peterson responded:

DP: "Yeah. I'd say that's basically it. I mean, they'll do it, you know, for example, the St. Matthews Market is very popular, people do come from other neighborhoods to shop there. But, and you'll hear them say, 'I wish I had one over in my own neighborhood, so I didn't have to drive over there.' Just the same way that you might want a community garden in your neighborhood, you know, you want a public library, and you know what I am saying, it's kind of quality of life indicators. A park, you know, everybody wants a park in their neighborhood, too, and so I think farmers' markets are just a reflection of that."

The popularity of neighborhood markets in Louisville indicates that market presence may serve as a quality of life indicator. Neighborhood markets bring neighbors together for shopping and conversation and can create a stronger sense of community, a fact that was echoed in market surveys conducted around the state.

"Niche markets" develop as a response to specific community needs and are another reason for the plethora of markets in Jefferson County. Some markets cater to customers commuting home, for example. These markets were coined by Ms. Peterson as "convenience motivated", as compared to other "Saturday" markets that have a definitive social scene - such as the St. Matthews Farmers' Market, at the other end of the spectrum...:

....."That's the thing that you do on Saturdays... you can go and have breakfast and listen to live jazz, and see all your friends, and buy stuff for dinner, and get some flowers for your table and you know what I mean, you've spent your Saturday morning having a good time and getting some good food..."

The role of niche markets in creating local food security should not be underestimated – although these markets may not generate the attention or sales that more popular and centralized Saturday markets do, they offer a level of convenience that is important in

today's consumer-oriented, fast-paced world. These markets increase the reach of the farmers' markets in the community and thus the availability of local food in the area.

Growing awareness of food deserts has contributed to the rise in farmers' markets, indicated Ms. Peterson. Some new markets in Louisville were intentionally founded in areas where residents are lacking easy access to a grocery store. These markets were developed through a variety of partnerships that generally included multiple entities, such as the county health department, Extension, Metro United Way (a national organization that works to provide resources for disadvantaged community residents), Community Farm Alliance (CFA, a statewide organization that lobbies for family farms), and neighborhood residents. The Phoenix Hill Farmers' Market also had involvement from the East Downtown Business Association. Ms. Peterson noted that residents in food desert areas had been slow to show interest by shopping at the markets and vendors were sparse as well, perhaps due to relatively low customer counts and customers with small budgets. Farmers' markets are not able to adequately address all food desert problems in Jefferson County, according to Ms. Peterson, in part because of the price point that market vendors generally seek. She named five Louisville markets that were listed in the KDA database for 2008 (and are still reported on in this study, as a snapshot in time) that had already failed. She noted that it is difficult to sustain markets in low income areas because direct market farmers need to garnish a living wage, a cost that is too high for most low-income residents to bear. Extension is also trying to expand farmers' market reach and audience by starting a new market in the office building's parking lot, with the goal of increasing staff access to local food and making it convenient. However, with only one vendor at this point, the market is taking off slowly.

Another way that Jefferson County is addressing the food desert issue is through the development of community gardens. Jefferson County Extension has been involved, to greater or lesser degree, in the development of multiple community gardens, with six already developed and three more underway in June of 2010. Extension staff members have been involved in building these community spaces, facilitating community meetings and partnership development, testing for lead and other heavy metal contaminants in the urban soils, building raised beds so that brownfield sites can be revitalized through gardening, and writing grants to support the program. The project has been extremely successful and a number of the gardens have waiting lists, said Agricultural Extension Agent Wayne Long, who estimated that 600 families are getting access to food directly through the program. Mr. Long has been the primary agent involved with community garden development. Farmers' markets and community gardens are a complementary rather than competitive means of ensuring food access and food security for area residents. The two meet the needs of different consumers with different resources and skills. Farmers' market patrons tend to be wealthier and more educated, but may not have the time or knowledge needed to spend growing their own food. Community garden growers may not have the income needed to shop at a farmers' market, but have the time and energy necessary to produce and preserve their own food. Both avenues provide mechanisms for communities to gain local food security and both should be utilized in order for communities to achieve it.

Other factors bearing on the preponderance of Jefferson County's farmers' markets include a strong local agricultural and "foodie" movement that includes multiple non-profit organizations such as the Community Farm Alliance and the Sierra Club.

While the Sierra Club's major area of focus is environmental advocacy and outdoor recreation, the statewide chapter is active in agricultural matters and partners with the Community Farm Alliance to sponsor a "Healthy Foods, Local Farms" conference annually in Louisville. The "Slow Food" movement, a national grassroots organization, is active in Louisville, where a number of restaurants utilize local ingredients and a monthly "slow food" dinner is held by the local chapter. Another example of the Slow Food movement manifesting itself in Louisville was the recent report on national news that Louisville is a hot spot for backyard chickens (CNN, 2009). In the report, interviewees indicated that they wanted to know where their food comes from, and that the quality of the eggs was noticeably better than what they could purchase at the grocery store. This kind of citizen engagement with local food is likely part of the reason for the especially high number of farmers' markets in Jefferson County.

### *Micropolitan Areas*

Micropolitan areas consist of one or more counties, tied together by an urban core and commuting patterns, but the principal city has a smaller population (between 10,000 and 50,000) than metropolitan areas do. They are less likely to offer the same abundance of cultural resources common to metropolitan areas, such as a plethora of shopping options, restaurants, and public transit. They also tend to exhibit less "sprawl." In Kentucky, only one micropolitan area has no farmers' market -- Mayfield (Graves County). Of the 26 micropolitan counties in Kentucky, three counties have two markets, two counties have no market, and the rest have one (Figure 3). The cumulative average for farmers' markets per county in micropolitan areas of Kentucky is 1, which in this case is also the median value. Interestingly, micropolitan markets tend to be older than

markets in metropolitan or rural areas. They also tend to do well economically because they generally do not have to divide market share, a factor that probably contributes to their longevity.

### *Rural Areas*

Rural areas have fewer markets than the rest of the state, averaging one every other county. There are 33 markets in the 60 rural counties, for an average of 0.55 markets per county in rural Kentucky (Appendix B). The following rural counties have no market or did not report for the 2008 survey: Adair, Butler, Carlisle, Casey, Clay, Clinton, Cumberland, Gallatin, Garrard, Graves, Green, Harlan, Hickman, Johnson, Knott, Know, Leslie, Letcher, Livingston, McCreary, Magoffin, Marion, Marshall, Ohio, Owsley, Pike, Robertson, Simpson, Todd, Trimble, and Webster (Figure 3).

Multiple factors likely influence the distribution of these markets in the landscape, including physiography, farm size, and household income levels. In terms of the physiography of Kentucky, there are more rural counties in the eastern part of the state with no market than in other parts of the state (Figure 3). Eastern Kentucky is comprised of mountainous terrain, and in terms of its resource base, is known more for forestry and mining than for agriculture. Physiography in Kentucky also impacts farm size, as farms in the western half of the state tend to be large, flat, and suited for crop farming. Large tracts of land in the eastern half of the state are generally hilly, forested and used for hunting or other uses, and tillable land is at a minimum in Eastern Kentucky.

Farm size may play a role in the presence or absence of farmers' markets in the landscape. According to the U.S. Department of Agriculture (USDA, 2010a), Kentucky had an average farm size of 164 acres in 2007. Market farmers tend to farm smaller plots

of land intensively. This type of farming lends itself well to market farming, whereas extensive farming generally lends itself to growing large-scale commodity crops such as corn or soy. Therefore, another factor in market presence could be farm size. Farm size seems to have an association with market presence in the landscape, as markets tend to be located near cities where farm size is generally smaller (Figure 6). However, there are many rural Eastern Kentucky counties with smaller average farm size that have no market. Pagoulatos, *et al.* (1987) found that the price of land was a major determinant of farm acreage throughout Kentucky and that the smallest farms were located on land with the highest price per acre. Areas with a higher proportion of farms were found to have larger acreage. Land in Eastern Kentucky tends to be inexpensive, although flat land is generally expensive there due to the mountainous terrain. These factors seem to indicate that farm size, while it may be a driver toward farm diversification and therefore possibly market farming, is not likely the reason that markets are less popular in Eastern Kentucky. Anecdotal evidence indicates that the availability of farmland is the driving factor in the reduced presence of farmers' markets in the landscape of Eastern Kentucky.

Lifestyle choice may be a third factor. For example, anecdotal evidence indicates that many residents in rural areas grow their own food as part of their rural lifestyle, and thus have little to no need for shopping at a farmers' market. This could be true even in mountainous Eastern Kentucky, where many residents do chop small gardens into the sides of hills, or find a small hollow for subsistence gardening. Also, in rural counties Kentucky farmers may be under-represented in terms of the number of markets due to a trend in many rural areas towards vending farm goods at flea markets. Kentucky has a thriving flea market scene, and there one can find everything from sweet potatoes, to live

chickens, to guns. Other outlets for farmers in Kentucky include restaurants, grocery stores, on-farm sales and roadside stands, auctions, and distribution centers, and these venues may act as substitutes for farmers' markets in rural areas. Income levels and their impact on the potential distribution of farmers' markets are discussed during the analysis of market gross sales, later in this paper.

### **Changes in the Market Population over Time**

Some municipal markets that existed prior to 1950 no longer operate, perhaps due to the advent of the grocery store. While public markets dominated the fresh food trade in the United States for roughly three centuries, and open markets persisted into the nineteenth century, covered public market halls quickly became the preferred form for markets. Market halls were large structures with stall space and other amenities, such as running water, for vendors, and generally had a vendor population that included wholesale trade of fruits and vegetables, along with butchers, fish mongers, bakers, and others. Market halls offered shelter from the elements and infrastructure that allowed health benefits from hygiene standards that could be met through the amenities that market halls provided. The more formal nature of market halls meant that regulations could be enforced (Mayo 1993, 1-4). Customers also appreciated the permanency of the arrangement and protection from the elements. Public markets were generally subsidized and regulated by the local government, and provided resources for community residents, often including meeting space, a fire tower, and other services (Mayo 1993, 6-7). Public market halls were built as early as 1707 in Philadelphia, and substantial permanent structures were constructed in major cities throughout the East during the 18<sup>th</sup> and 19<sup>th</sup> centuries (Mayo 1993, 5-19). By the early nineteenth century, Lexington and Louisville



had public “street market” structures – long, covered structures located on a wide thoroughfare in the downtown (Mayo 1993, 8). Even in the day of the public market house, farmers had a difficult time competing with wholesalers because of their inability to be present each market day. This reduced their desirability as vendors due to decreased rent fees, and also made it harder for them to establish a regular customer base (Mayo 1993, 19). Nonetheless, open markets and market halls dominated the retail food sector in the eighteenth and nineteenth centuries.

The expansion of transit dramatically changed the market landscape in the twentieth century. The speed at which freight could be moved increased as motorized vehicles became more commonplace, new roads were built, and the railroad network grew. These developments increased the volume of freight that could be shipped, and made it possible for even remote areas to get items more frequently and in larger quantities, leading to increased economies of scale. Reliability of shipments also improved. The advanced distribution network, coupled with the development of mass food production and packaging, made first the Main Street grocery store possible, then the corner store (Mayo 1993). Over the years, chain stores evolved as a way to standardize operating procedures and increase purchasing power, efficiently distributing on a mass scale in a way that matched the demands of mass production (Mayo 1993). The growth of chain stores was greatest in the economic boom following World War I. Markets had grown steadily since the turn of the century, but as an example, the Kroger Company had less than 30 stores in 1900 and in 1920 Kroger had 2,559 stores (Mayo 1993, 84-85). Suburbanization meant the movement of population from the downtown core, and corner groceries emerged to meet local shopping needs, reducing the need for

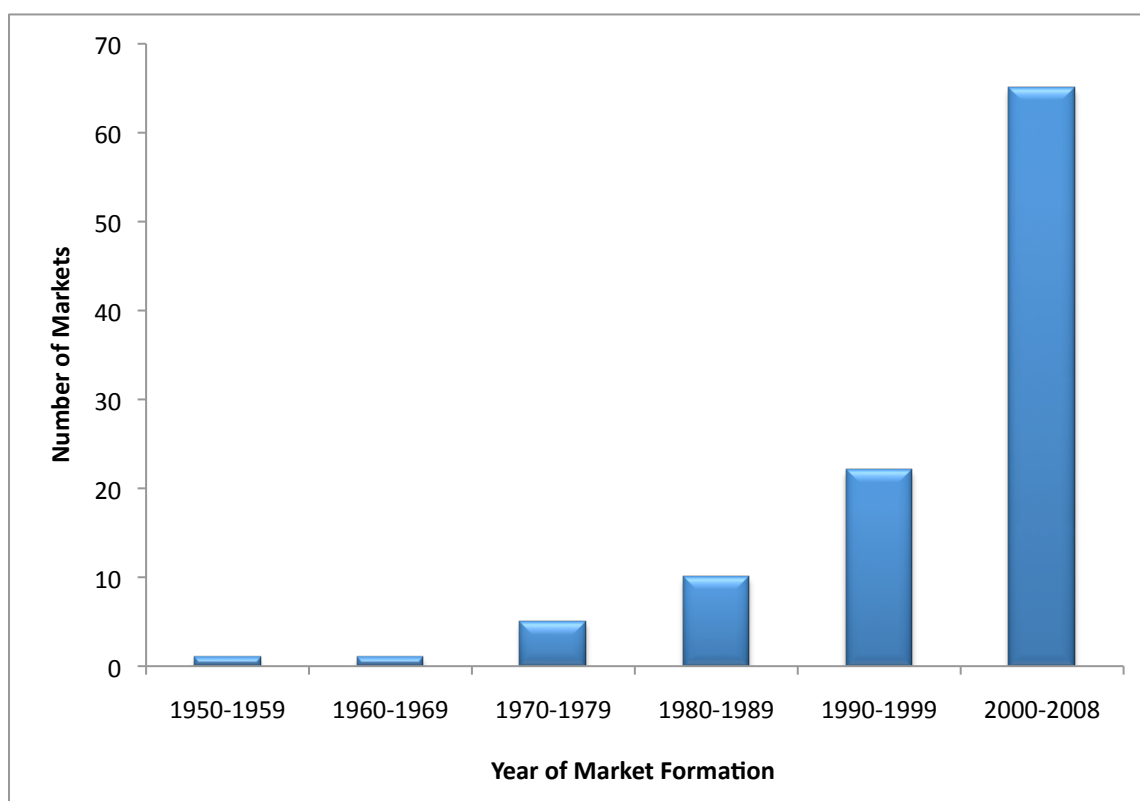
individuals to travel to downtown markets (Mayo 1993). As these new distribution systems emerged, they undercut the farmers' market and public market hall systems of the early 20<sup>th</sup> century. Shoppers became accustomed to shopping at local grocery stores and many public markets were not able to maintain a customer or vendor base that paid the rent. Public markets generally did not make money for city governments and as they aged and required increased care, city governments became less willing to subsidize them (Mayo, 1993). The "street market halls" designed into street medians were demolished in order to make more room for traffic flow. Of the hundreds of public market halls that were in place across America, less than 100 are in use today, according to Project for Public Space officials. The death of the public market and growth of the grocery store meant the loss of farmers' markets in communities across the country. A century after the widespread growth of grocery stores and the demise of farmers' markets nationwide, a revival of farmers' markets is occurring, as communities rediscover the many benefits that they offer.

### **Age of Markets: Farmers' Market Formation by Year**

Farmers' markets resurfaced in Kentucky's landscape in 1950, when an open air market was established in the heart of downtown Frankfort, the Commonwealth's Capitol. However, lack of documentation makes presenting a complete history of farmers' markets in Kentucky difficult. Markets that did not report for the Kentucky Department of Agriculture survey remain unrepresented. High rates of turnover in market leadership and lack of written records meant that in 2008, only 104 of 121 (85.95%) market leaders reported to the Kentucky Department of Agriculture on what year the market was formed. Five of 58 (8.47%) reporting metropolitan markets did not

know, or did not report, when the market was formed. Four of the 26 (15.39%) micropolitan markets did not report or know the year the market formed. Five of 33 (15.15%) rural markets did not report on when the market was established.

The network of farmers' markets in Kentucky has grown exponentially within the last fifty years – from one market in 1950 to 121 markets today – and over half of those were established within the last decade (Figure 7). The national trend mirrors recent local growth, with the number of markets growing by 58.61% in the last decade, from 2,746 in 1998 to 4,685 in 2008 (USDA, 2010b).



**Figure 7. Markets Established in Kentucky by Decade, 1950-2008**

Sixty five of the 104 markets reporting in 2008 (63%) were formed between the years 2000-2008. When asked if new markets were formed in the area in 2009, or were planned for 2010, five respondents (18%) said that they were aware of new markets.

This indicates continued growth and development of Kentucky farmers' markets, for even though some markets have failed since this study began, new ones are emerging.

If markets were forming at a steady rate, the histogram diagramming the year of market formation would be nearly flat in appearance, with the same number of new markets forming each year. However, each decade since 1970 has seen market growth more than double. The dramatic distribution confirms that farmers' market creation is more than just an increasing trend – it is a phenomenon!

Both skew and kurtosis are statistical measures that can be used to compare the relative variability of data, and both are sensitive to outliers in the data set. The skew, which is represented in the tail of the distribution, is 1.699. In other words, the few markets formed in the 1950s and 1960s pull the tail of the distribution to the left, creating a negative skew. The large number of markets formed in the last two decades pulls the right side of the distribution upward, increasing its kurtosis, which measures the steepness of the graphed distribution.

The oldest continuously operating farmers' market in Kentucky is only sixty years old. This market – the Franklin County Farmers' Market – is in Frankfort, Kentucky's capitol. The market was formed by a local Ruritan Club which collaborated with farmers to create a market. They initially set up at various locations, then eventually along a main street in town on the sidewalk under tents, and finally moved to the market's current location under a semi-permanent pavilion at Riverside Park.

The timing of the rise in farmers' markets is consistent with growing media and community awareness of local food and the growth of the local food movement. Simultaneously, tobacco settlement funds and the tobacco buyout of the late 1990s

helped Kentucky farmers in a transition from tobacco into alternative production systems, which increased the number of farmers growing for farmers' markets.

Tobacco settlement dollars for Kentucky farmers' market development became available through the 1998 Master Settlement Agreement, established after complainants won a law suit filed against a number of large tobacco companies. These funds were distributed as follows: 50% for tobacco growers and rural development initiatives, 25% for early childhood development programs, and 25% for public health initiatives. The 50% for tobacco growers and rural development initiatives became what is now known as the Kentucky Agricultural Development Fund (KADF), which is administered by the Kentucky Agricultural Development Board and staffed by the Governor's Office of Agricultural Policy.

Additional funding that benefited the formation of new markets was made available to farmers in 2004, when the Tobacco Transition Payment Program (TTPP) became law (Pratt, 2009). The TTPP, also known as the tobacco buyout, allowed for the restructuring of tobacco quotas. The tobacco buyout has been and continues to be used by many tobacco farmers and tobacco base holders to diversify their farms by taking lump sum payments to purchase equipment and planting stock, such as fruit and nut trees, to diversify their farms. Producers have also focused on adding value to their product before it leaves the farm, for example, by making fruits into jams and jellies.

#### Kentucky Agricultural Development Fund

Funding has been made available to farmers through the Kentucky Agricultural Development Fund Board of Directors, which distributes the funds, and the Kentucky Governor's Office of Agricultural Policy, which performs administrative duties related to

the funding. Sixty-five percent of the funds were made available through statewide distribution, and thirty-five percent to counties through established County Agricultural Development Councils (Infanger *et al.* 2008). According to documentation provided by the Governor's Office of Agricultural Policy, 49 counties had received over \$2,331,000 in funding for farmers' market development through this program as of March, 2010 (GOAP 2010). Markets have primarily used the money for advertising and infrastructure development. Policy makers have clearly considered the expansion of local markets for the producers of new and expanded crops and added-value offerings as an essential step in helping farmers make the transition from tobacco growing. Infanger, *et al.* (2008), using data from nine representative markets, determined that \$0.84 in annual sales was generated for every dollar received for farmers' market development through funds disbursed by the Kentucky Agricultural Development Fund. While this figure may seem small, it takes time for markets to develop both a customer and a vendor base, and the markets are likely to grow as they become better established. In addition, the \$0.84 generated annually will conceivably accrue in the future – for example, after 5 years, \$4.20 will have been generated by the \$1.00 investment. In addition, markets have been demonstrated to bring a multiplier effect to local businesses in the area, and money spent at a farmers' market tends to stay in the local economy longer than money spent at a chain grocery store (Myles and Hood, 2010).

A majority (81.8%) of the 2010 statewide market leader survey respondents believed that Governor's Office of Agricultural Policy funding had benefited the farmers in their area. Most markets used funding to advertise their market in local publications or to purchase market signage. Other markets built infrastructure, such as open air

pavilions, hand washing stations, and cooking demonstration areas with the funds. Markets found matching funds from many sources, including County Fiscal Courts, Chambers of Commerce, and city governments. While some counties have been able to find partners to meet match requirements, market leaders whose markets did not receive grants said that the primary barrier to applying for state grants was the inability to match funds. Infanger's (2008) evaluation of Kentucky Agricultural Development Fund investments in Kentucky agriculture also identified this concern.

A majority of market leaders (68%) responded that farmers' market grants from the Governor's Office of Agricultural Policy had benefited their market. In interviews, farmers stated that they personally had used agricultural development funds to make capital improvements to their farms, including the purchase of greenhouses, barns, cold storage, and wagons for taking goods to market. Farmers also indicated that they used the funds for purchasing seeds and paying for other annual start-up expenses at the beginning of the market season.

#### *Reasons for Market Formation*

When Kentucky farmers' market points of contact were asked why the markets were formed, the major themes that emerged were that stakeholders were either looking for another venue for local farmers to sell local products (19 responses), or seeking to benefit the public through access to local product (19 responses). Interestingly, roughly 1/3 of respondents indicated that the market was formed to benefit both farmers and the public, 1/3 felt that their markets were created to benefit the farmer, and 1/3 said that the markets were formed to benefit the public, primarily through providing increased access to fresh, local, and/or nutritious products. Those who mentioned benefits to the farmer or

the local economy were generally from rural or micropolitan areas, while metropolitan market leaders tended to focus on the benefits to the public. Some rural and micropolitan market leaders mentioned the social benefits of the market, and not all of these market leaders mentioned benefits to the farmer. Four respondents specifically mentioned aiding farmers in the transition from a tobacco-based economy, and three stated that their markets were formed to provide farmers additional revenue. Three respondents said that new markets were formed due to disagreement with existing market policies, politics, and practices, including those policies which allowed vendors to resell produce. The practice of resale at farmers' markets is considered by many vendors and market leaders to be problematic because, among other reasons, the practice generally drops the price point for products at a market, making it more difficult for farmers to garner a living wage. Other responses included benefiting the downtown area, providing education to consumers, and helping consumers develop a relationship with farmers. A particularly exciting new market emerged from a Future Farmers of America (FFA) project – local high school students began marketing products from their family farms at the high school. After the first year, the city requested that the market move to the downtown core, where it has been well received. The market will be in its third year in 2010, and has grown to include 31 vendors, many of whom are not affiliated with the high school. This indicates broadening success of the venture.

#### *Other Factors Relating to Market Age in Kentucky*

The average year of market formation in Kentucky is 1998. Among metropolitan markets the average age is 7.83 years, within micropolitan markets the average age is 14.62, and rural markets have an average age of 10 years. The oldest markets in



Kentucky were primarily formed in what today comprise micropolitan areas – seven of the ten are micropolitan while three are metropolitan. This indicates that the modern farmers’ market movement in Kentucky began in mid-sized cities, while new markets are mainly found in metropolitan areas.

The oldest markets have a wide range in vendor numbers, gross sales, and county population levels (Figure 8). The oldest market in a metropolitan area is the Bowling Green Farmers’ Market, the Franklin County Farmers’ Market was the oldest in a micropolitan area, and in a rural area, two markets tied for oldest: the Rowan and Powell farmers’ markets, both formed in 1984.

Rank	Market	Year Established	Vendors	Gross Sales (\$)	Population
1	Franklin County Farmers' Market	1950	35	122,000.00	48,844
2	Bowling Green Farmers' Market	1968	24	250,000.00	105,862
3	Mason County Farmers Market	1970	20	N/A	17,414
4	Berea Farmers' Market	1972	15	40,000.00	82,192
5	Lexington Farmers' Market	1975	60	2,301,470.00	282,114
5	Montgomery County Farmers Market	1975	35	250,000.00	25,618
7	Pulaski County Growers Association	1979	8	60,000.00	60,851
8	Bardstown Farmers' Market	1980	22	N/A	43,113
8	Bath County Farmers Market	1980	20	60,000.00	11,750
8	Menifee County Farmers Market	1980	11	N/A	6,744

**Figure 8. Ten Oldest Farmers’ Markets in Kentucky**

The base year for calculating market age was 2008, thus the twelve markets that

began in 2008 were brand new and are considered to be zero years old in this study (Figure 9). None of the markets started in 2008 reported on gross sales, so the variable is left out in Figure 9. Of these markets, one is rural, two are micropolitan, and nine are metropolitan. This signifies that consumers in metropolitan areas have a huge, but recent, interest in local food.

Rank	Market	Year Established	Vendors	Population
1	Farmers' Market of Murray - Calloway County	2008	25	36,240
1	Kentucky Proud Nights Farmers Market	2008	20	282,114
1	Simon Kenton Farmers Market	2008	15	157,629
1	Norton Commons Farmers Market	2008	13	713,877
1	La Center Community Farmers' Market	2008	10	8,323
1	Amerigo Farmers' Market	2008	7	713,877
1	Hodgenville Farmers' Market	2008	5	13,722
1	Southwest Farmers' Market	2008	5	713,877
1	Livermore Farmers Market	2008	3	9,681
1	Russell Neighborhood Farmers' Market	2008	1	713,877
1	Williamstown Main Street Market	2008	N/A	25,549
1	Suburban Christian Church Farmers' Market	2008	N/A	713,877

**Figure 9. Twelve Youngest Farmers' Markets in Kentucky**

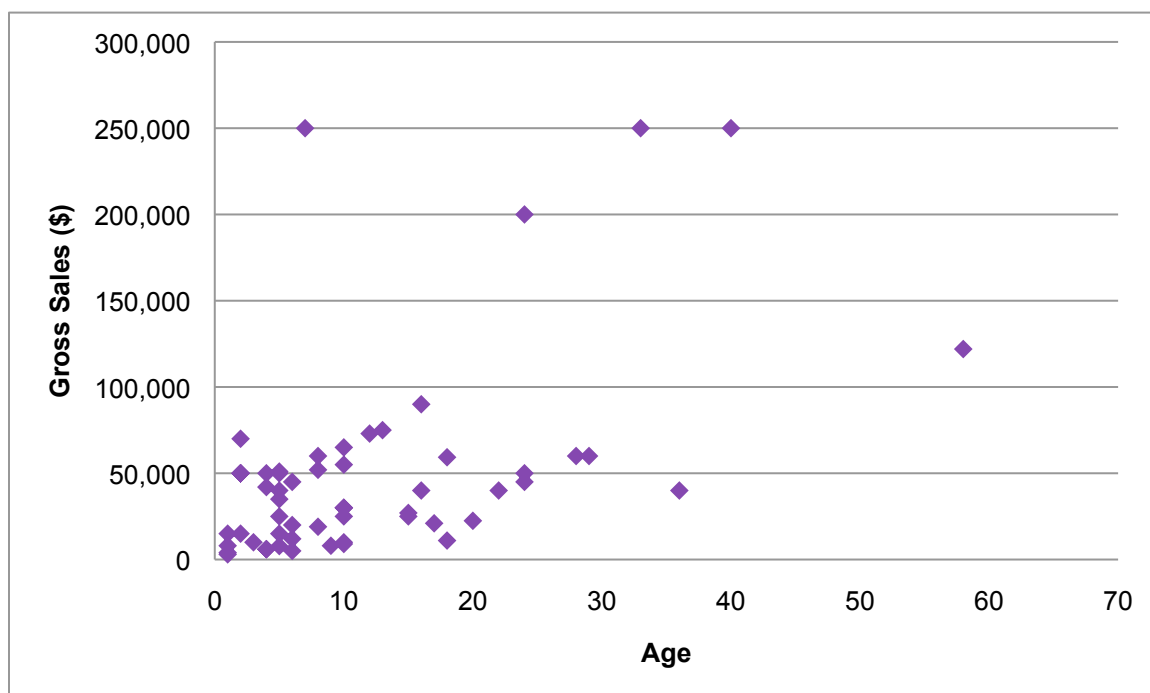
Market leaders' felt that markets in place longer were better established and thus had a consistent customer base, which in many cases had followed the market as it moved to one or more different locations. Maintaining consistent days and times and having a reliable vendor base were cited as a key part of market establishment. For well-established markets, word of mouth is a common form of advertising.

Extension agents revealed that farmers' markets are hot politically. "Every politician wants one in their district or their neighborhood," one agent exclaimed. This statement hints that community residents are asking for local food, and may also highlight the increased presence of farmers' markets in the legislative scene. In interviews, farmers noted the increasing popularity of farmers' markets. One farmer noted, "I think these farmers have been there all along. They're just realizing that, 'I don't need to sell to a wholesaler. I can sell directly because the markets are there, which they weren't 16 years ago.'" Another farmer mentioned that direct sales and farmers' markets are becoming truly viable for farm sales:

When I started getting involved back in the early '90s, there was a university publication talking about the farmer setting up on the back of his pick-up truck and doing \$100. That was the farmers' market. Well, \$100 in sales doesn't pay the bills. It's when farmers watched successful market growers and realized 'if he's selling 200-400 pounds of tomatoes and he's getting \$2 a pound, he's making some real money there on a Saturday when it's only one of the items he's selling.' When they see that, they realize there is some real money to be made there, that's worth looking into.

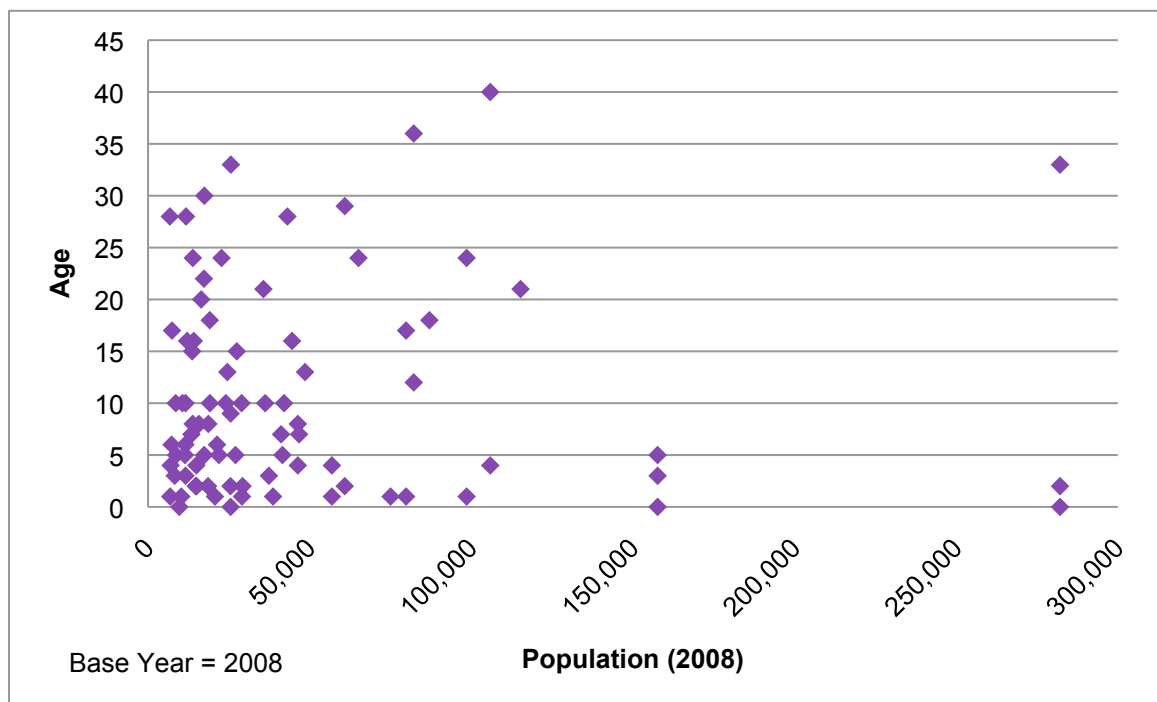
All farmers, extension agents, and other market points of contact for metropolitan markets indicated that local consumers – representing the bulk of population in Kentucky – are looking for local food. Interviewees noted the "foodie" trend, driven in part by the media and gourmet food channels, and they attributed at least some of the growth to consumers becoming more educated and aware. They cited a growth in consumer awareness and interest in local food, due to concerns with nutrition, health, food safety, and a desire to support the local economy and farmers. Thus, it seems that farmers and consumers alike are embracing the concept of the local food movement. Urban areas seem to be racing to catch up to micropolitan areas, where markets have generally been established longer.

The age of a farmers' market does not appear to play a significant role in market gross sales, as a scatterplot (also known as a scattergram) of market age and gross sales reveals no clear trend (Figure 10). When combined with correlation analysis, the scatterplot can provide a sense of the strength of relationships between variables. If the variables hold closely to a line, the relationship is considered strong, but as the line dissolves towards a cluster, the relationship is weaker. A scatterplot exploring the relationship between market age and gross sales shows a modest relationship, and correlation analysis resulted in an  $r$ -value of 0.5081, after the removal of three major outliers – the markets in the state that grossed more than \$250,000 in sales (Figure 10). These markets were all in highly urbanized areas, which may not be the most indicative of statewide trends, as Kentucky is in many ways a rural state. The  $r$ -value of the entire distribution, including outliers, was 0.3264.



**Figure 10. Market Gross Sales and Age**

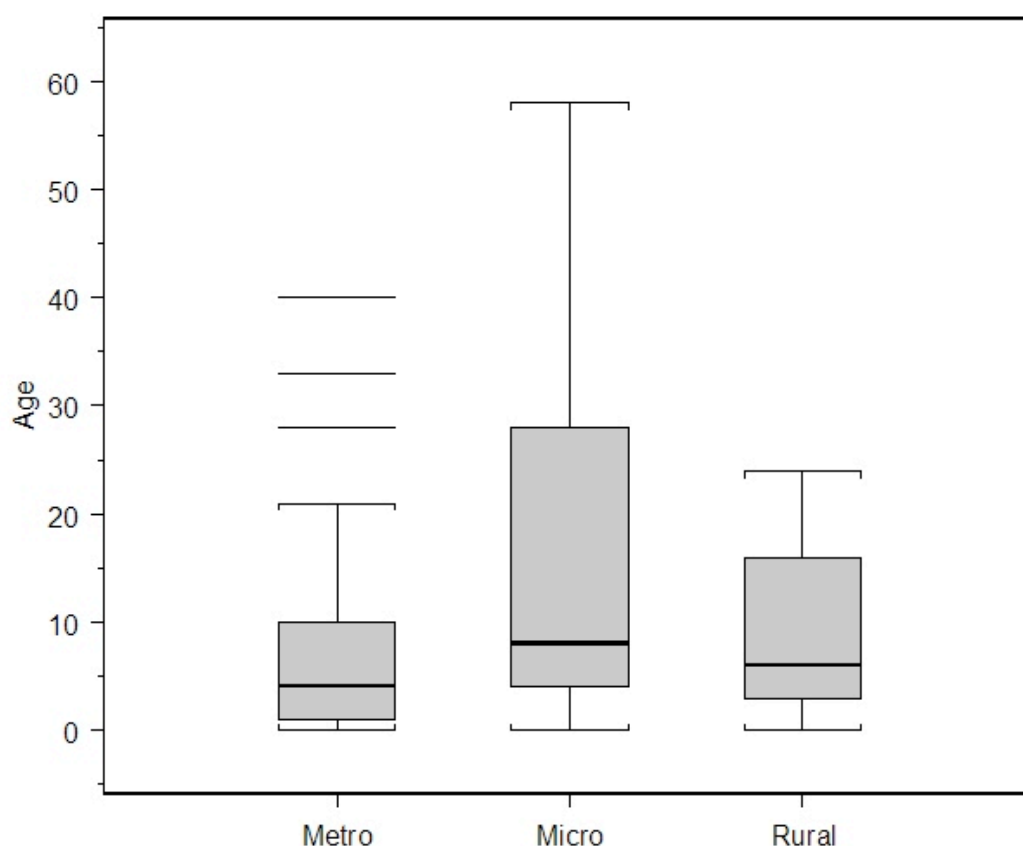
No relationship between market age and population is demonstrated in the  $r$ -value of 0.05 in the scatterplot of market age and county population (Figure 11). The scatterplot is shown without the major outliers of markets in Jefferson county, which has a larger population than the rest of the state, and the market in Franklin County, the oldest in the state. The correlation value with all outliers left in the analysis is -0.2569.



**Figure 11. Kentucky Market Age and County Population**

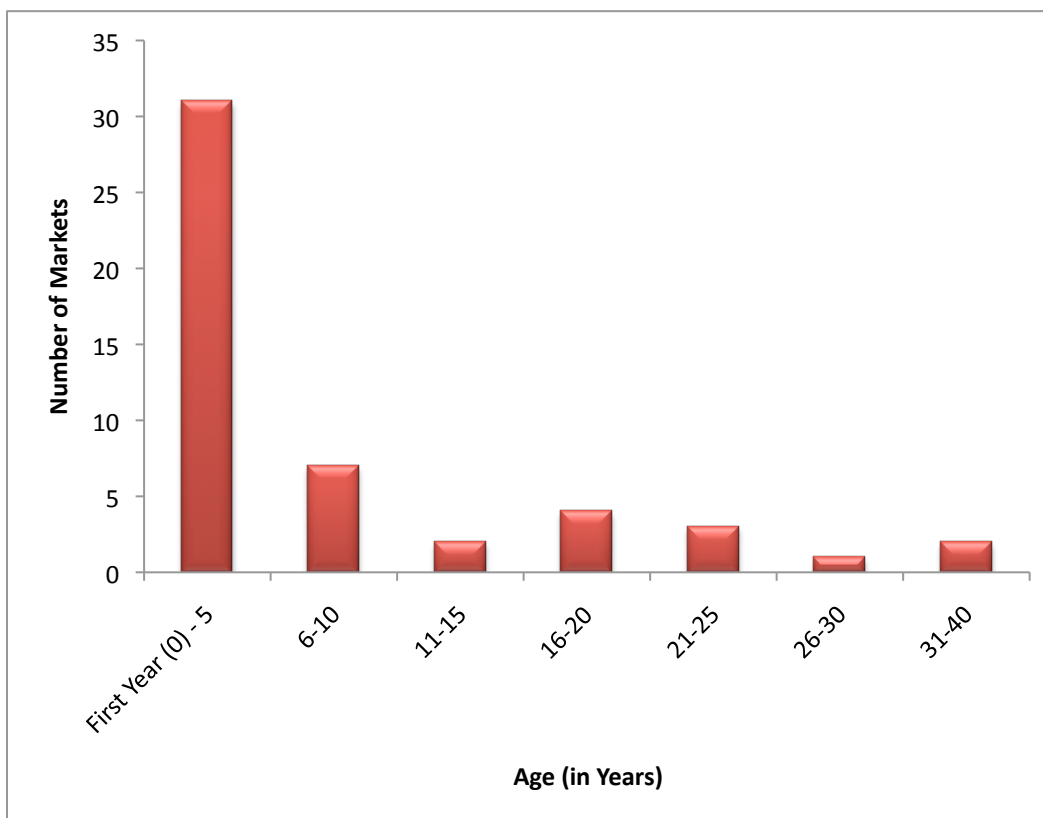
Boxplots are a helpful preliminary data analysis tool because they allow direct visual comparison of multiple characteristics of the data, including high and low values for a data set; outliers in the data; and the median, skewness, and spread of the data. A boxplot of market age reveals that the three urban classifications have similar medians, although the data spread is different between these categories (Figure 12). All of the urban classifications have skewed distributions, although the skew is much more significant for micropolitan markets. In the metropolitan category, a number of outliers

cause the skew for age. Outliers in the boxplot are represented by lines outside the whiskers. Outliers in the metropolitan markets category are relatively young (30-40 years) when compared to the range of the micropolitan markets. Rural markets appear to be younger than micropolitan markets, but not as young as metropolitan markets.

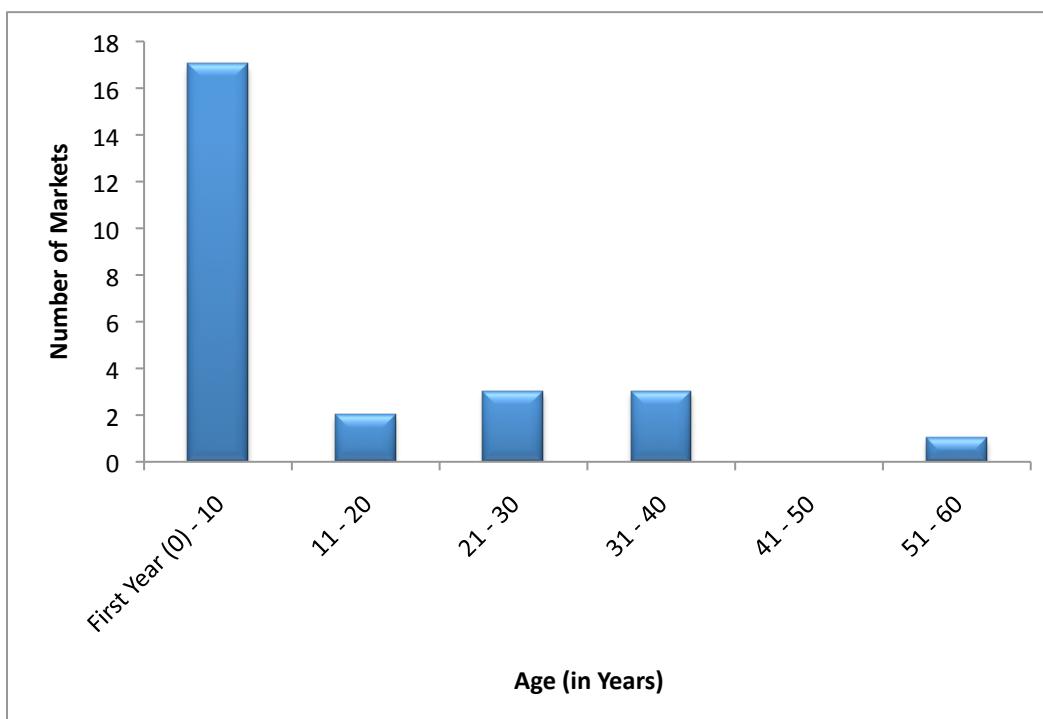


**Figure 12. Market Age by Urban Classification**

Histograms of market age by urban class reveal that all three classes have had significant growth in the farmers' market sector within the last 10 years (Figures 13, 14, and 15). It is important to note here that the histograms are scaled to reveal distribution patterns for each urban class and cannot be used to compare across classes, as the axes are scaled differently due to large-scale variation between the different groups. The rural

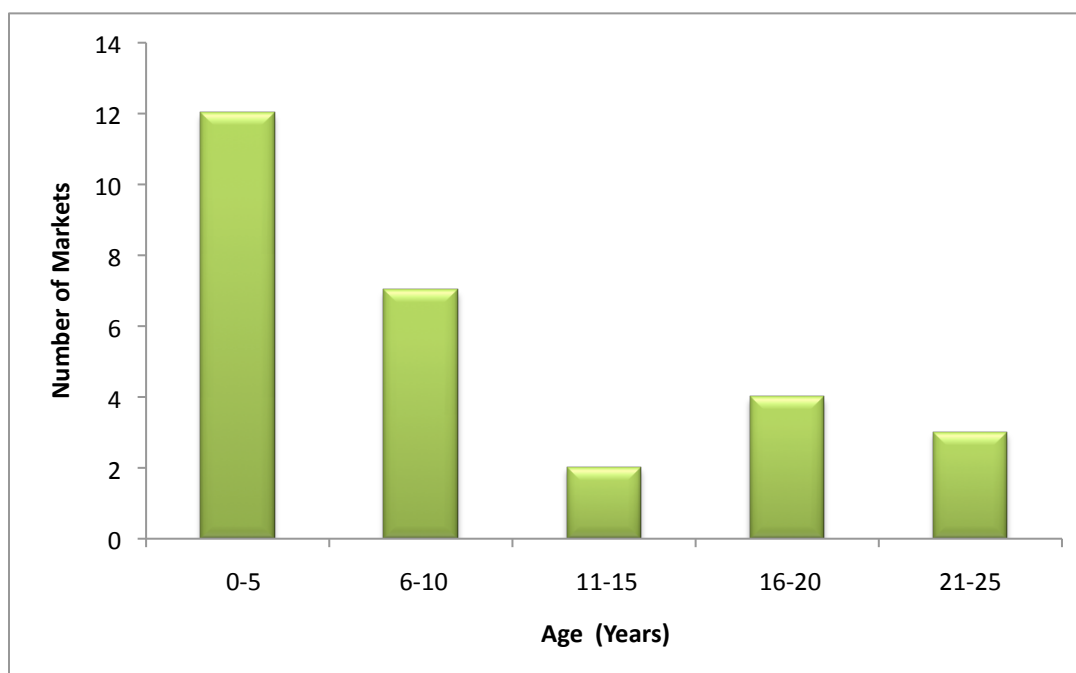


**Figure 13. Metropolitan Farmers' Market Age in Kentucky**



**Figure 14. Micropolitan Farmers' Market Age in Kentucky**

farmers' markets have a smaller range, but along with the other categories indicate a significant spike in new market development. The median age for metropolitan markets is 4.5 years, for rural markets it is 7, and for micropolitan markets it is 10. One expert in the field, Kelly Williams with the Project for Public Spaces, suggested that this may be due to a combination of rural dwellers historically growing their own food and thus not needing farmers' markets until fairly recently, and urban areas losing markets to sprawl.



**Figure 15. Rural Farmers' Market Age in Kentucky**

#### *Kruskal-Wallis Analysis*

These analyses of market age, both by urban class and aggregated, indicate an extremely skewed distribution. Therefore, statistical analysis requires a non-parametric test for analysis. The Kruskal-Wallis test, which compares the means of the ranks of different samples, was applied to the variable of market age. The purpose of the test is to determine if the markets in each urban classification come from similar or distinctly different populations, which will indicate if the market growth trend is significantly



different in metropolitan, micropolitan, and rural areas. The means of the ranks of each of the three urban classes are compared to see if they exhibit a statistically significant difference. The null hypothesis is that the samples are from the same population and thus the mean ranks of each sample should be approximately equal. The alternative hypothesis therefore asserts that at least one of the samples comes from a different population, so in this example, the market growth trend could be stronger in metropolitan areas than in micropolitan or rural areas.

The data set was first ranked, and then divided into the three urban classifications of metropolitan, micropolitan, and rural market ages. The sum of the ranks was taken and the test applied using the total number of data points in each data set, the square of the sum of the ranks, and the number of ties in the data set. In the data set, 75% of the values were tied, so a correction factor for ties was employed (as required for this test when greater than 25% of the values are tied). The correction factor increases the value of  $H$ , reduces the  $p$ -value, and increases the likelihood of finding a significant difference between samples (McGrew and Monroe, 2000). The test yielded an  $H$ -value of 6.13 with a  $p$ -value of 0.047. There is a 4.7% chance of such an extreme result if the null hypothesis that all markets come from similar populations is correct. Hence, with a confidence interval of .05 (5.0%) the null hypothesis is rejected. It was therefore determined that the markets in the three urban classes come from statistically significantly different populations. This implies that market culture has different levels of embeddedness in rural, micropolitan, and metropolitan areas of Kentucky. The histograms show that the trend was initiated first in micropolitan areas of the state, a few years ahead of most other areas. The oldest markets began nearly 15 years earlier in micropolitan and metropolitan

areas than they did in rural areas. This could be due to sprawl pushing out historic urban markets, and the change of lifestyle in rural areas, whose residents have traditionally not needed farmers' markets due to their traditional agrarian lifestyle. Micropolitan area residents are more connected to and proud of Kentucky's agrarian roots, as evidenced in statewide market leader surveys. In sum, most markets are quite young in Kentucky, but micropolitan markets are clearly better established than metropolitan and rural markets. In metropolitan areas, markets founded in 1990 are considered outliers, as most metro markets were created in 2008. Brand new metropolitan markets were a dominant theme in the first decade of the twenty-first century.

### **Farmers' Market Gross Sales**

Farmers' markets make sense for farmers and city dwellers alike. City people tend to have higher per capita incomes than those in rural areas. City people also may be lacking the resources necessary, be it land or technical skills, to grow their own food. Farmers need an outlet for their goods. However, for farmers to consider it worth their while to pack all their wares into a truck and drive into town to spend hours of time that could be well utilized on the farm, markets need to create a positive return for the farmers involved. Without sales, markets cannot prosper and will quickly fade out of existence. What farmers earn at the market can be an indicator both of market success, and of the income that may be in the farmers' pockets at the end of the day. Market gross sales can also indicate a level of interconnectivity between urban and rural areas.

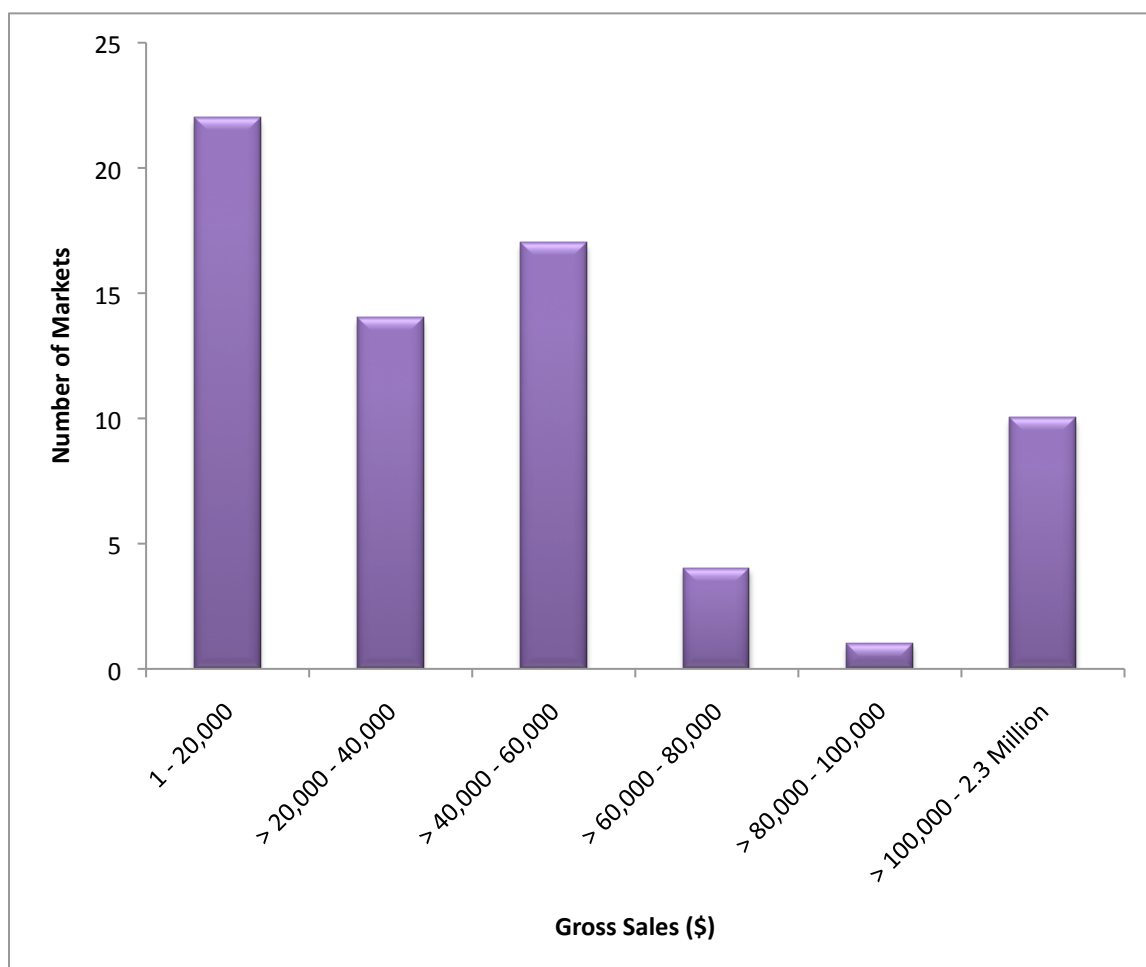
### *Factors Relating to Gross Sales*

In all, 68 of the 121 markets (56%) provided information on gross sales in the 2008 Kentucky Department of Agriculture Farmers' Market survey. Fewer metropolitan

markets reported their gross sales than did rural and micropolitan markets. In the metropolitan class, 35 of 60 markets (58%) did not collect any financial gross sales data from market vendors or did not report that information. Six of 24 micropolitan markets (25%) were missing financial data. Eight rural markets of 33 (24%) did not know or report on market gross sales. This missing data – by far the least reported of any variable in this study, is likely to greatly underestimate the economic value and status of farmers' markets in Kentucky. Interviews with University of Kentucky agricultural extension agents indicated that many markets do not collect this data due to lack of trust with what may happen to the data, and in the case of the Kentucky Department of Agriculture survey, an anti-government sentiment held by key market leaders.

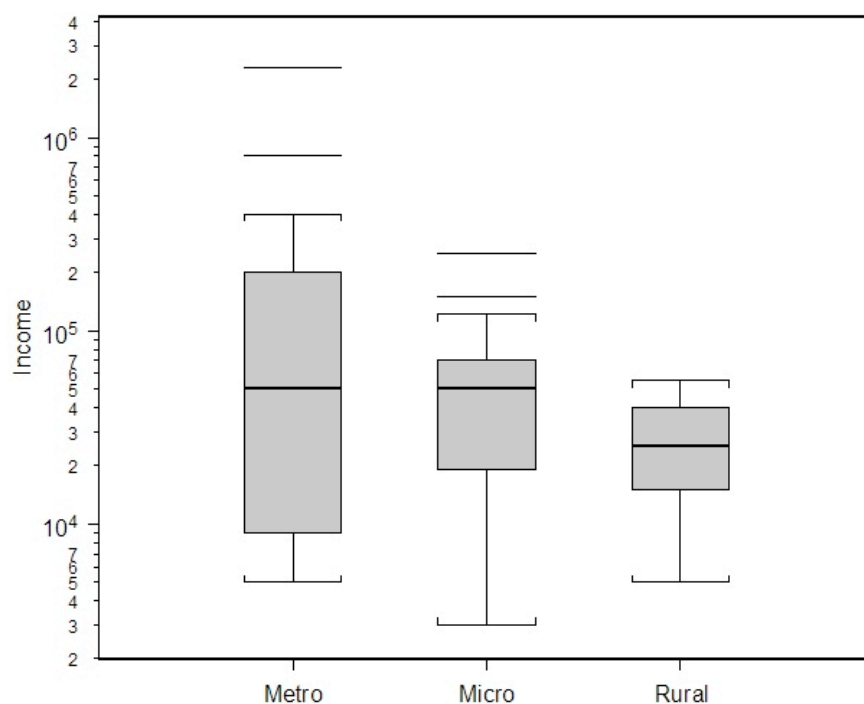
Despite the widespread lack of reporting on this variable, enough data is available to get a sense of the broad range of gross sales for farmers' markets in Kentucky. Most markets in Kentucky report small gross sales, while a few markets report sales much higher than the rest (Figure 16). The largest category of markets reports \$20,000 or less in sales. The data set has a highly leptokurtic distribution, with a kurtosis value of 82.66. This means that the concentration of markets with low sales is much greater than the concentration of markets with high sales. The bulk of reported sales fall into the left side of the histogram, and a tail reaches to the right, creating a positive skew to the data. The skew of the gross sales distribution is 8.64 – in other words, the few markets with high sales have a large influence over the distribution. The multimodal nature of the gross sales histogram indicates some significant differences among the markets – either they report generally lower sales of less than \$60,000, or more than \$100,000. The data is not normally distributed, and requires a non-parametric test for statistical analysis.

Figure 17 shows the high, low, and median values for each urban classification. The boxplot depicts the data set for farmers' market gross sales, separated into the categories of metropolitan, micropolitan, and rural markets. The figure does show that the markets have similar medians, although the distribution of micropolitan markets is skewed. The boxplot is adjusted logarithmically due to the extremely high outliers in the metropolitan market sector (primarily Fayette County).



**Figure 16. Statewide Farmers' Market Gross Sales**

Gross market sales in relation to urban classification are mapped in Figure 18. Figure 19, a map showing the median household income per county, suggests a correlation between market gross sales and household income. This is consistent with the



**Figure 17. Gross Sales and Urban Classification**

research conducted at other U.S. farmers' markets (Sommer, *et al.* 1981). Figure 20 shows that market sales are generally higher in educated parts of the state, although notable exceptions include Jefferson County (which is missing sales data), and Rowan County (in the Appalachian foothills). Figures 19 and 20 taken together suggest that a more educated, informed, and critical-thinking community is more likely to have the inclination and revenue stream to shop at farmers' markets.

Metropolitan markets have the highest average gross sales, followed by micropolitan markets. Rural markets tend to have the smallest gross sales. Among metropolitan markets, the average gross sales are \$208,388 with a median of \$50,000. Within micropolitan markets the average is \$60,816 with a median value of \$50,000.

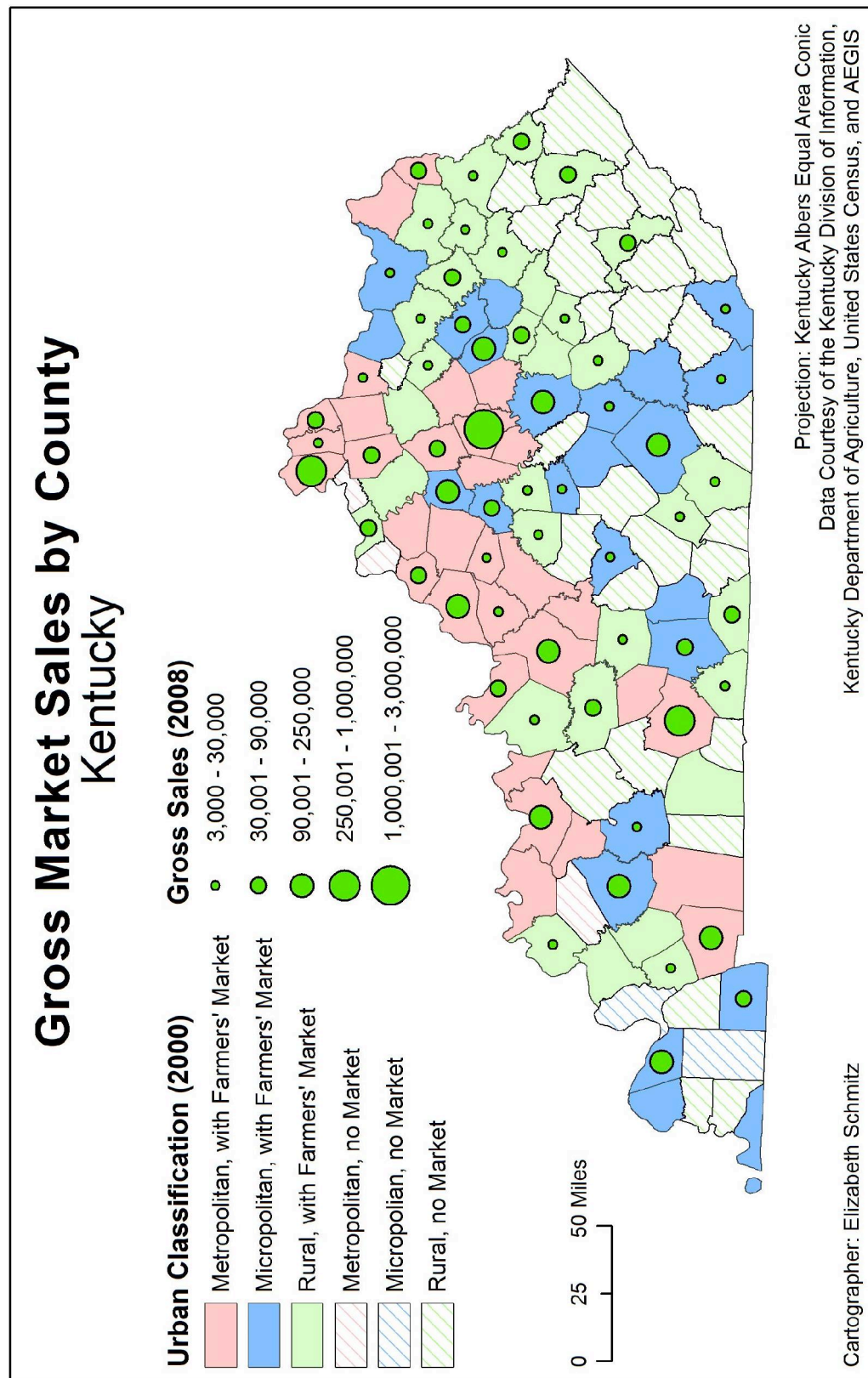
Rural markets appear to be more evenly distributed, with average gross sales of \$27,658 and median of \$25,000 annually.

The Top Ten Markets list contains no markets in rural areas and only three in the smaller micropolitan statistical areas (Figure 21). Of the ten markets most successful economically, seven are from metropolitan areas. In general, these markets tend to be older and include the longest running market in Kentucky. Two newer markets form exceptions to this trend; markets formed in 2001 and 2004 located in Trigg County and Warren County are found in the top ten gross sales producers.

The newest market on the list is the Southern Kentucky Regional Farmers' Market (SKy Market) in Bowling Green (Warren County), ranked number four. The market emerged as a response to the only other farmers' market in town, which limits the vendor base to those who live within the county, and which also allows resale of produce not grown or produced by the market vendor.

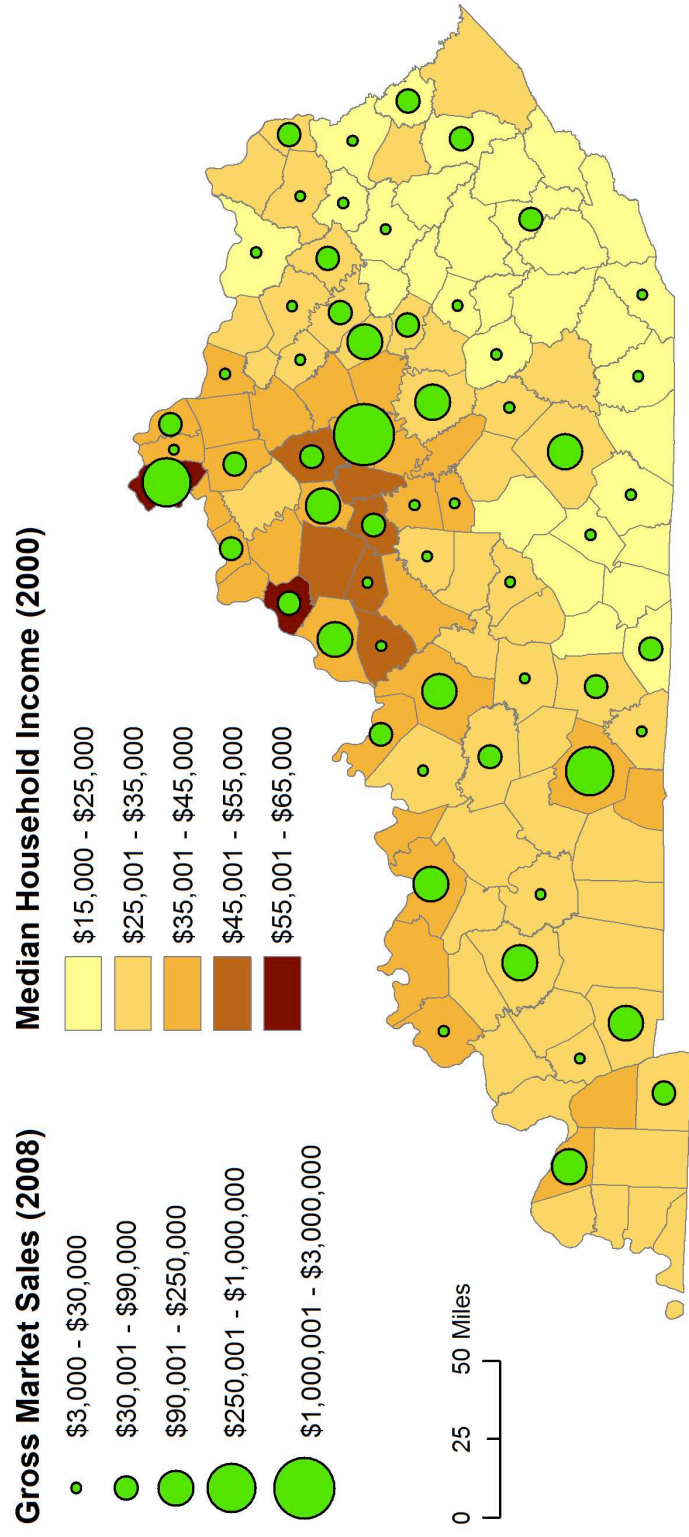
The SKy Market allows vendors from anywhere in driving distance, but requires participating vendors to grow or make what they sell. Perhaps the increased and diverse vendor base is what has made the market so successful, or perhaps it indicates a preference on the consumer's behalf for fresh, locally grown produce sold by the farmer who grew it. Two additional factors that may play a role for this and other markets are publicity and grant support.

The Governor's Office of Agricultural Policy has used agricultural development funds to support five of the top ten markets for sales. Two of these top ten counties, Hardin (\$82,869) and Franklin (\$121,500) have used the funds to develop



**Figure 18. Gross Market Sales by County**

# Gross Market Sales Versus Median Household Income Kentucky Counties



Cartographer: Elizabeth Schmitz

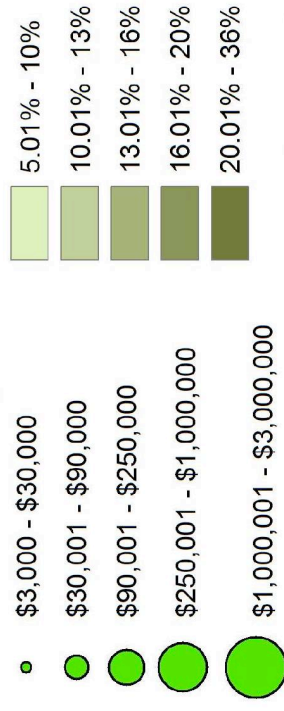
Projection: Kentucky Albers Equal Area Conic  
Data Courtesy of the Kentucky Division of Information;  
Kentucky Department of Agriculture; University of Louisville, and the United States Census

**Figure 19. Gross Market Sales versus Median Household Income**

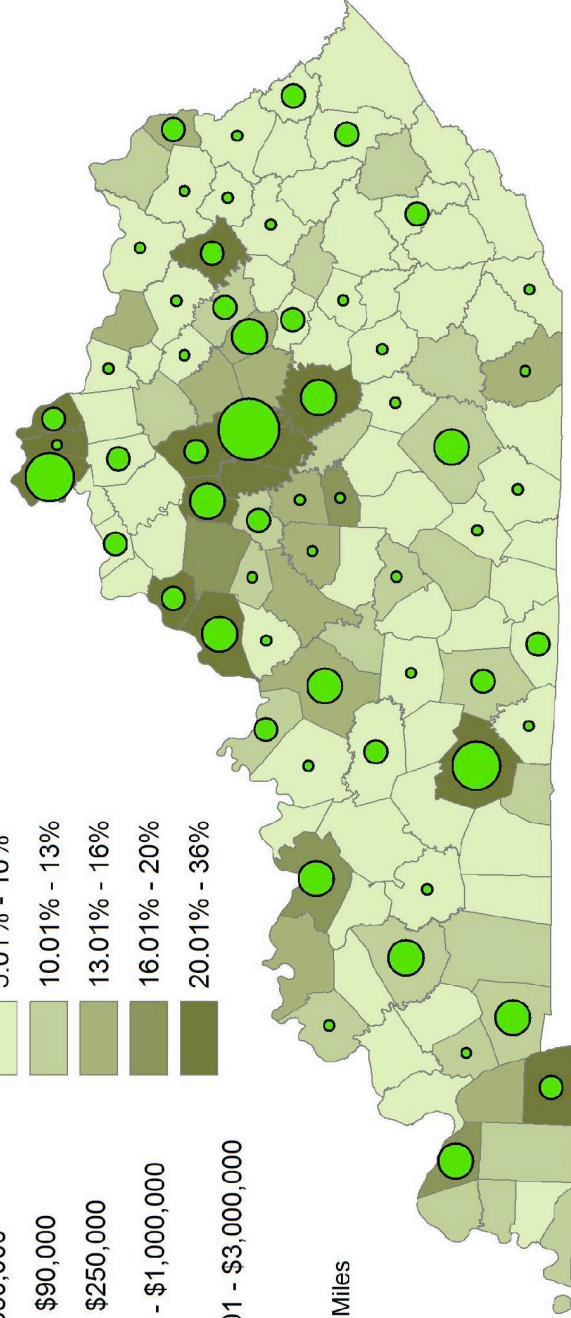


# Gross Market Sales Versus Percentage of Population Holding a College Degree Kentucky Counties

Gross Market Sales (2008) College Degree (2000)



0 25 50 Miles



Cartographer: Elizabeth Schmitz

Projection: Kentucky Albers Equal Area Conic  
Data Courtesy of the Kentucky Division of Information;  
Kentucky Department of Agriculture; University of Louisville, and the United States Census

**Figure 20. Gross Market Sales versus Percentage of Population Holding a Bachelor's Degree**

Rank	Market	Gross Sales (\$)	Year Established	Vendors	Population
1	Lexington Farmers' Market	<b>2,301,470</b>	1975	60	282,114
2	Boone County Farmers Market	<b>811,283</b>	1987	46	115,231
3	Southern KY Reg'l Farmers' Market	<b>400,000</b>	2004	33	105,862
4	Montgomery County Farmers Market	<b>250,000</b>	1975	35	25,618
4	Cadiz Farmers Market	<b>250,000</b>	2001	50	13,418
4	Bowling Green Farmers' Market	<b>250,000</b>	1968	24	105,862
7	Hardin County Farmers' Market	<b>200,000</b>	1984	30	98,546
8	Paducah's Downtown Farmers' Market	<b>150,000</b>	N/A	20	65,109
9	Owensboro Regional Farmers Market	<b>135,000</b>	N/A	28	94,418
10	Franklin County Farmers' Market	<b>122,000</b>	1950	35	48,844

**Figure 21. Top Ten Farmers' Markets, Ranked According to Gross Sales**

permanent and/or semi-permanent facilities. The Franklin County Farmers' Market is located at a busy intersection near a city park and adjacent to the river. The Lexington Farmers' Market is in the downtown core, near the library. Of the top five markets, four are producer-only – the Southern Kentucky Regional Farmers' Market, the Montgomery County Farmers' Market, the Franklin County Farmers' Market, and the Boone County Farmers' Market.

Many counties have used the funding for marketing purposes. Daviess County received \$8,000 for promotion and \$5,000 for a farmers' market feasibility study. The Cadiz Farmers' Market in Trigg County received \$3,000 from the GOAP between the years 2001 and 2005 for farmers' market development and promotion. The market has the benefit of being part of a Renaissance (Main Street Redevelopment) project, and both the City of Cadiz and Trigg County Extension are active partners in the market. The

Rank	Market	Year Established	Vendors	Population
1	Farmers' Market of Murray - Calloway County	2008	25	36,240
1	Kentucky Proud Nights Farmers Market	2008	20	282,114
1	Simon Kenton Farmers Market	2008	15	157,629
1	Norton Commons Farmers Market	2008	13	713,877
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1	Southwest Farmers' Market	2008	5	713,877
1	Livermore Farmers Market	2008	3	9,681
1	Russell Neighborhood Farmers' Market	2008	1	713,877
1	Williamstown Main Street Market	2008	N/A	25,549
1	Suburban Christian Church Farmers' Market	2008	N/A	713,877

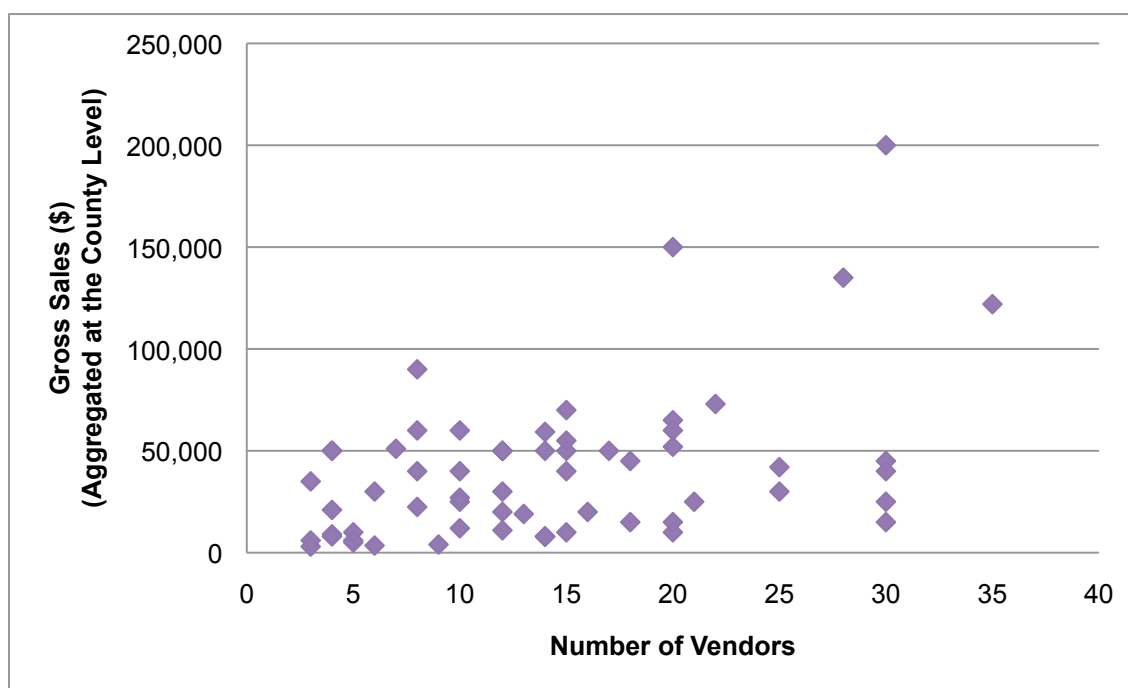
**Figure 22. Smallest Ten Markets in Kentucky, Ranked According to Gross Sales**

location of the market is in downtown Cadiz, which may help attract customers in terms of visibility and traffic count. The market does allow vendors to sell items not made or grown by them. The SKy farmers' market in Warren County received \$25,000 from the Governor's Office of Agricultural Policy between the years 2004 and 2007 in support for establishment and promotion, eighty percent of which was used for promotion.

The understanding that markets in areas with larger populations have larger gross sales may lead one to believe that the smallest markets would all be rural. While it is true that the smallest market is a rural market, a closer look at the ten smallest markets in Kentucky shows only two of the smallest markets in rural areas, three in micropolitan areas, and 5 in metropolitan areas (Figure 22). Every market featured in the Smallest

Markets list also has a small number of vendors (less than 15). It is possible that vendor strength and diversity impacts gross sales. First and foremost, each additional vendor offers the customer one more outlet for their dollars. In addition, a stronger vendor base directly impacts the diversity of product at the market, and increases market presence in terms of visibility and presentation.

A scatterplot shows that markets with more vendors report higher gross sales (Figure 23). The variable of vendor strength is reported on in the next section, but for gross sales and vendor strength, the  $r$ -value of 0.5452 indicates a moderate association between variables. Removing outliers with values of \$250,000 or more yields an  $r$ -value of 0.4622, showing that the large outliers impact the skew of the distribution and could create the illusion of a stronger relationship than what actually exists.

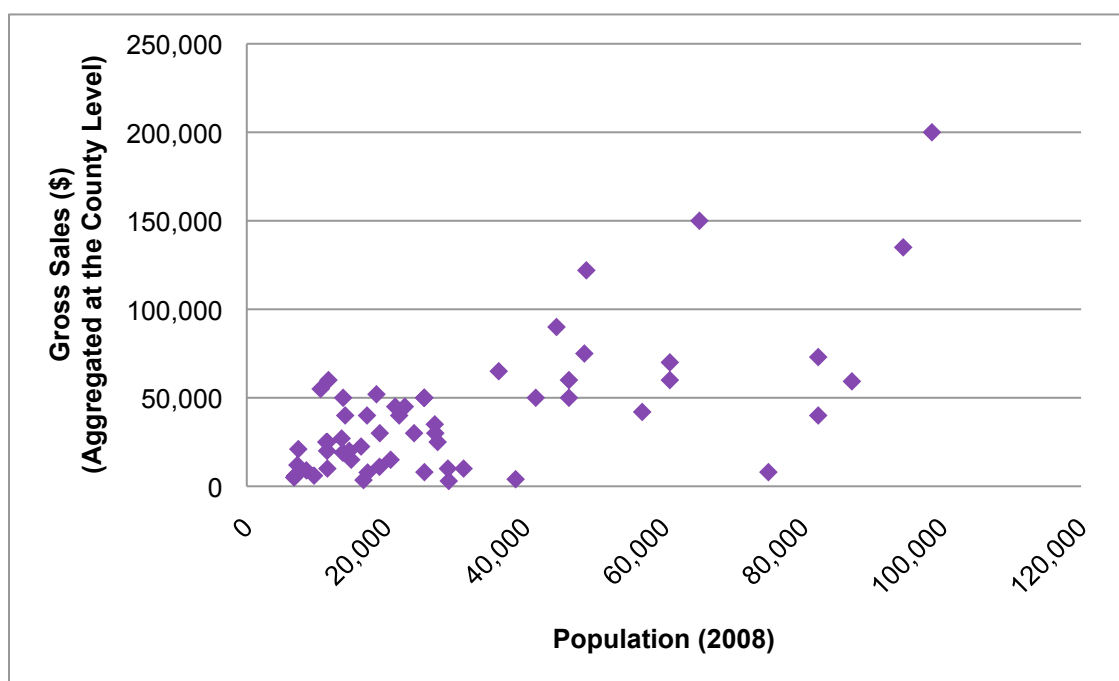


**Figure 23. Farmers' Market Gross Sales and Vendor Strength**

#### *Population Density*

Most reporting markets were in counties with less than 100,000 people, and had

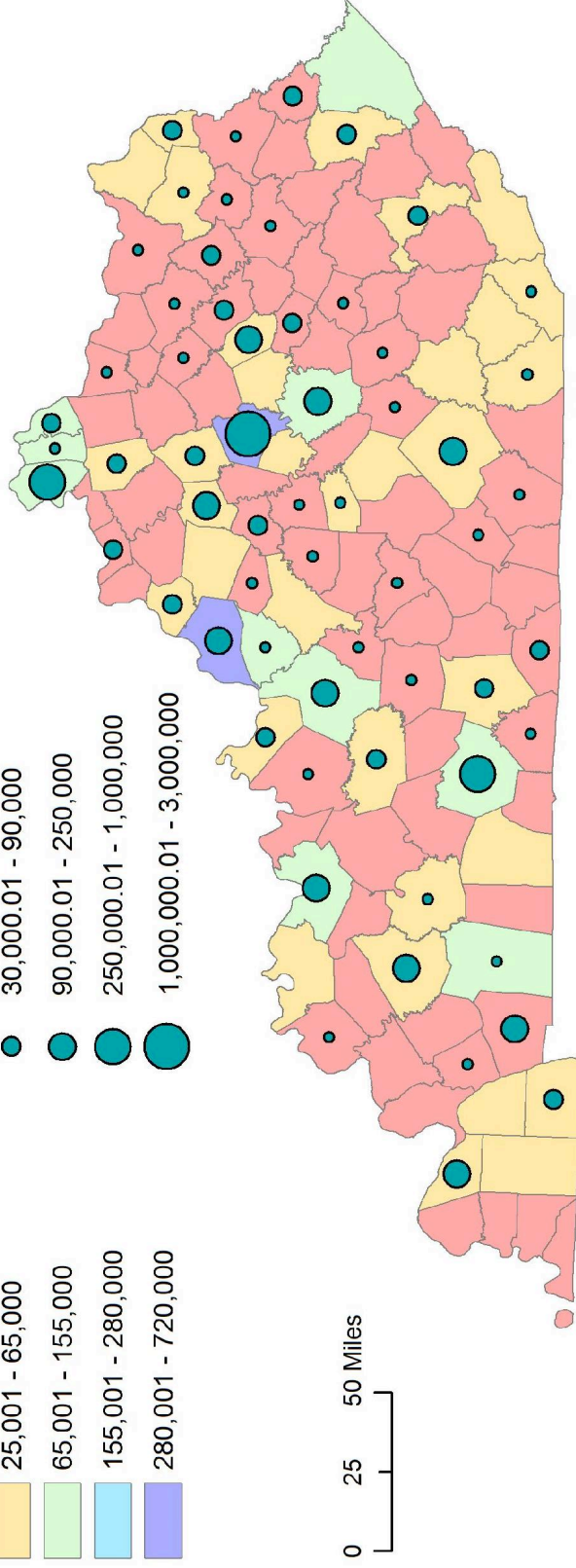
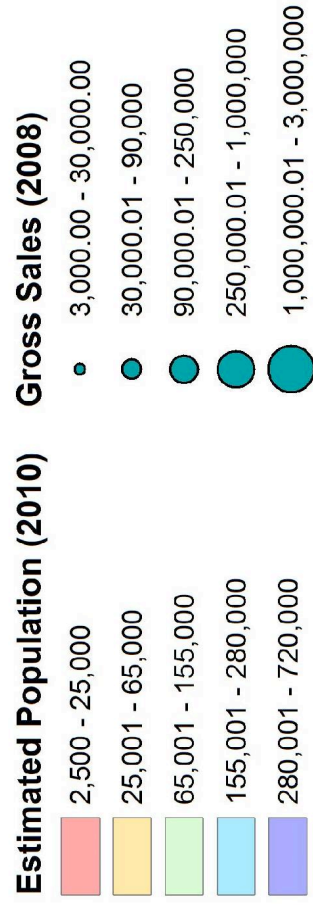
gross sales of under \$250,000. The larger urban populations are not truly representative of Kentucky's more rural population. Furthermore, many of the metropolitan values appear to be under-reported, increasing their impact on the distribution. Removing significant outliers – three markets in counties with over \$250,000 in sales and populations over 125,000 – yields a correlation value of 0.6694. This is much more suggestive of a strong relationship between population and gross sales than the correlation value for the entire data set, which is 0.1785 – showing the large influence that the three outlier markets have on the distribution.



**Figure 24. Farmers' Market Gross Sales and County Population**

Analysis of gross sales across all Kentucky farmers' markets has shown that most counties in Kentucky with less than 100,000 people had combined market gross sales of \$250,000 or less. Key outliers forming exceptions to this economic trend are Boone, Boyd, Fayette, Franklin, Jefferson, and Warren Counties. These six counties are the central counties for six of the nine large CBSAs in the Commonwealth.

# Population and Gross Farmers' Market Sales Kentucky Counties



Cartographer: Elizabeth Schmitz

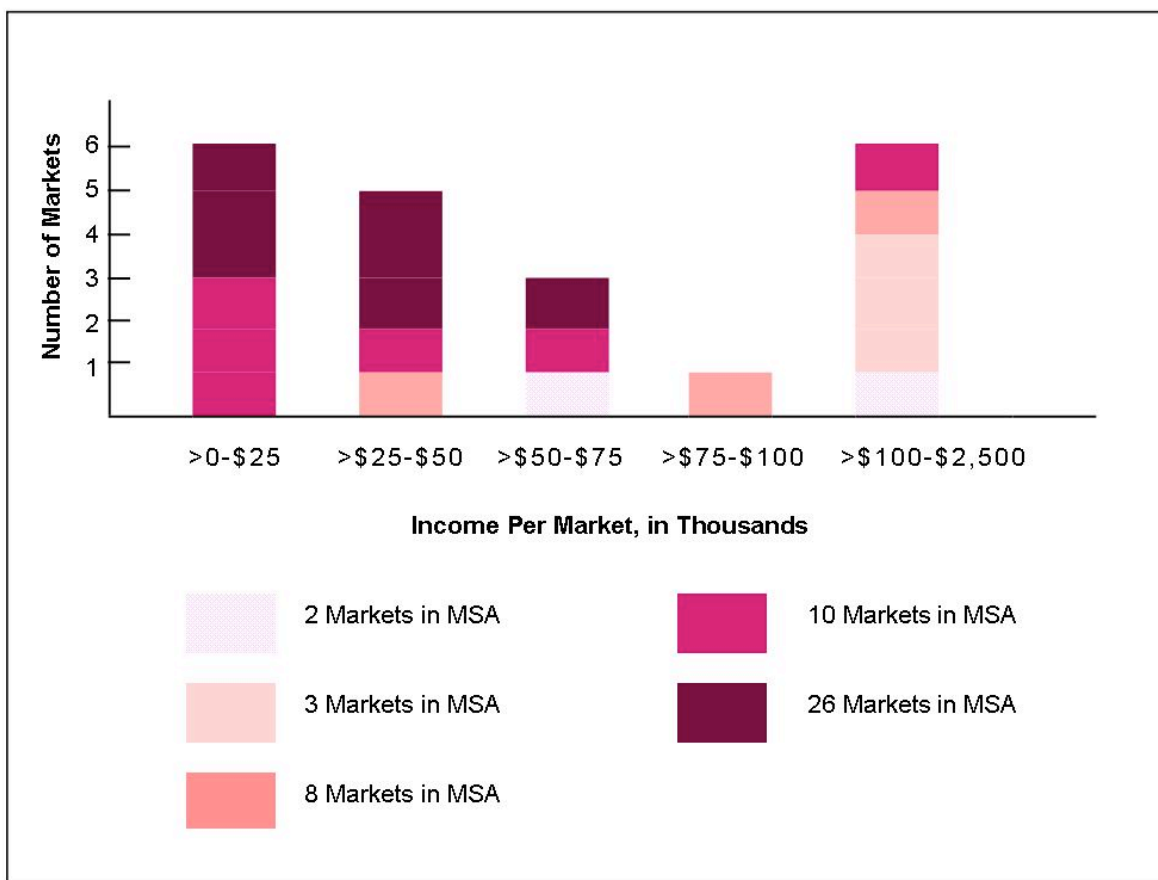
Projection: Kentucky Albers Equal Area Conic  
Data Courtesy of the Kentucky Division of Information,  
Kentucky Department of Agriculture, United States Census, and AEGIS

**Figure 25. Population and Gross Farmers' Market Sales**

## Metropolitan Markets

Here, as elsewhere in this paper, histograms are scaled to reveal distribution patterns and cannot be used to compare across urban classes. The axes are scaled differently for each class, due to large-scale variation between the different groups. A histogram of gross sales for metropolitan markets reveals a bimodal pattern (Figure 26). It seems that markets in metropolitan areas tend to make either less than \$50,000 or more than \$125,000 – up to roughly \$2.5 million. This pattern may indicate some potential problems with the data set, or could reveal a geographic phenomenon driving the data. One problem with the metropolitan data set is that very few metropolitan markets reported gross sales. In fact, only 35% of all markets in the metropolitan sector reported on this variable. While about half of the markets in the complete Louisville-Jefferson County, KY-IN MSA (which comprise 43% of the metropolitan market data set) reported on the variable of gross sales, only three of the markets in Jefferson County, which houses the bulk of population in the MSA and 18 farmers' markets, reported gross sales (16.67%). Therefore, missing data could influence the distribution. However, Jefferson County has a ratio of one market per \$40,000 people. When compared to markets with less competition and a greater concentration of the market share (i.e. Fayette County has roughly one market per 80,000 people), it appears that perhaps markets in Jefferson County and other urban areas are kept small due to population dispersion. In other words, more markets in an area may divide market share. In Figure 26, the six markets with dark colors in the far left column show more saturated market conditions, and smaller gross sales of \$25,000 or less. All six of the markets in that column made less than \$25,000. Three of the six were in an MSA with 26 markets (Jefferson County). The





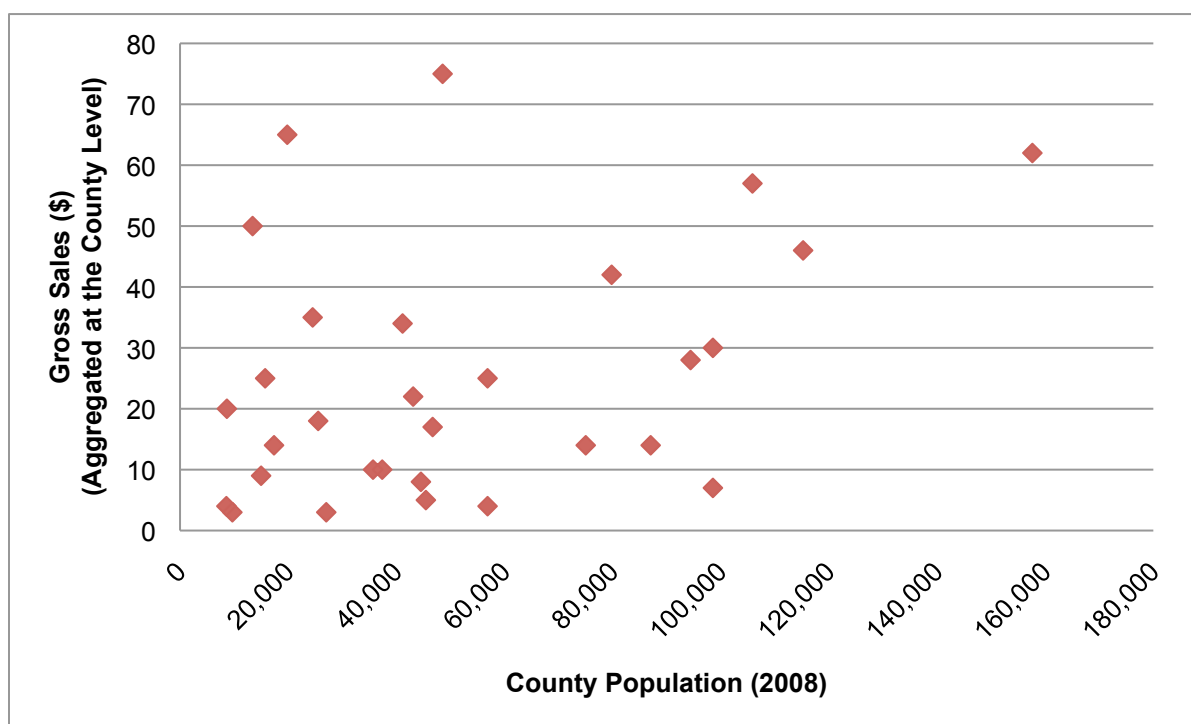
**Figure 26. Metropolitan Market Gross Sales and Competition for Market Share**

other three were in an area with ten markets. The six markets in the bar to the far right, which indicates market gross sales of \$100,000 - \$2.5 million, have lighter colors which indicate metropolitan areas with fewer markets, and therefore less competition for market share. The bulk of the markets in the higher economic bracket are in an MSA with only two or three markets. This last category may only reflect a concentration of market share – but these markets may also indicate a “golden number” for markets. Within markets, three or four vendors of a particular item tend to drive competition within that market for a product. Quality goes up, and prices go down. Perhaps two or three markets are able to gather a critical mass of vendors in one place (creating a larger choice for customers in terms of product and even farming practices), while also providing competition to other



markets. Markets competing with between seven and nine other markets demonstrate no clear pattern in terms of their gross sales. In sum, the bimodal pattern appears to indicate that multiple markets dilute market share. More markets in an area, as in the Louisville example, may create more intimate farmers' markets organized on a smaller scale, meshing with the denser urban landscape that Louisville possesses. In the Lexington example, a more concentrated market appears to command a greater presence in the economic landscape, and may also offer a greater variety of goods and services.

There appears to be little correlation between population and gross sales in metropolitan markets, perhaps due to the influence of a few outliers, such as Jefferson and Fayette Counties. Most markets are found in counties with population of less than 200,000 people – not surprising, as most counties in Kentucky have a population of less



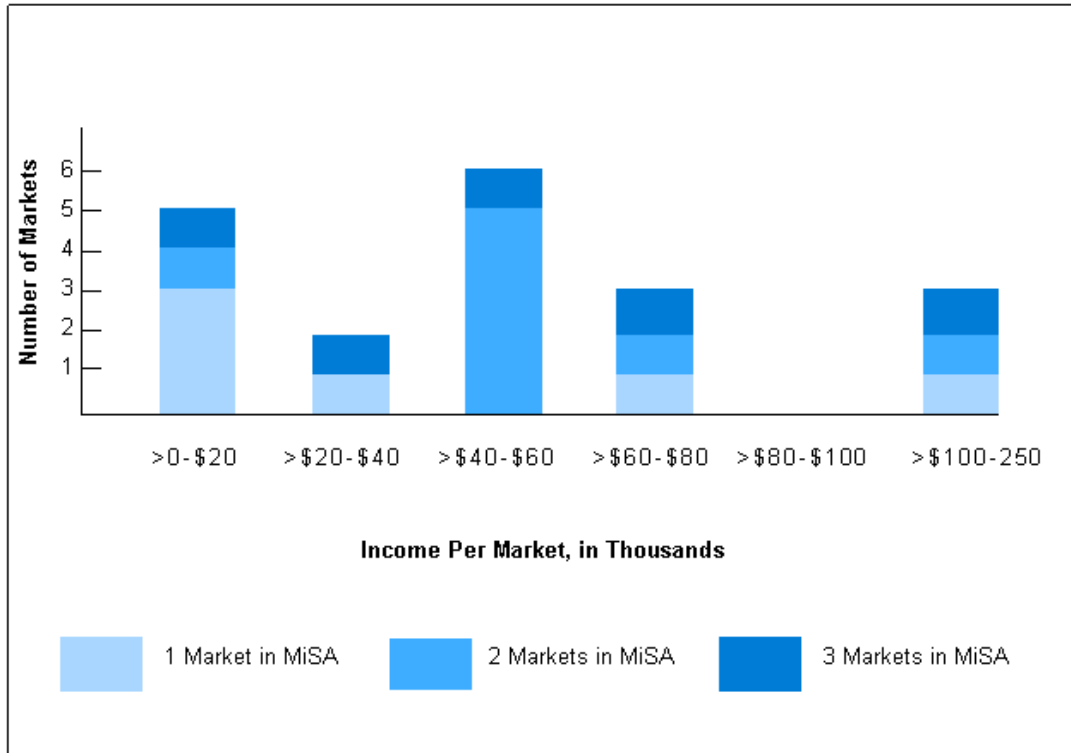
**Figure 27. Metropolitan Market Gross Sales and Population**

than 200,000, with the exception of Jefferson (population over 700,000), which as noted reported very little in sales for such a large population (\$106,000). Metropolitan markets generally report \$250,000 or less in gross sales (Figure 27). With the Jefferson County and Fayette County markets removed, the  $r$ -value indicating the strength of correlation increases from 0.2402 to 0.3548. Figure 27 shows data that has been aggregated at the county level – so multiple markets' gross sales data are reflected for counties with multiple markets as one data point.

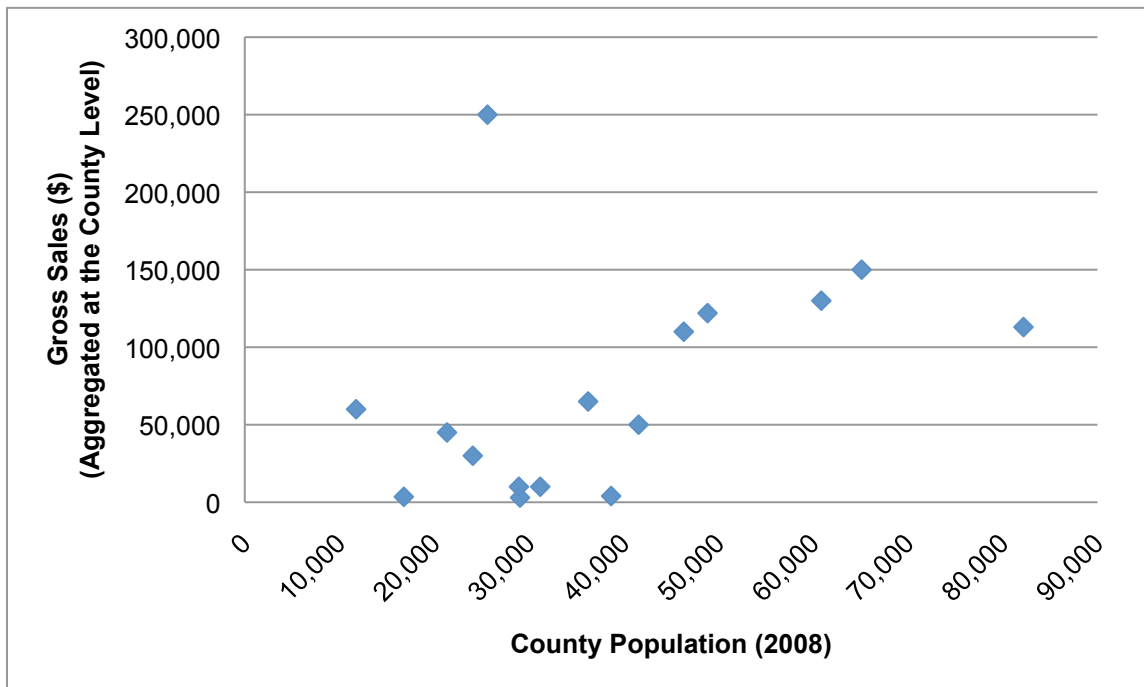
### Micropolitan Markets

The gross sales range for micropolitan markets starts at a low of \$3,000 in Bell County and reaches a high of \$250,000 in Montgomery County. The average for gross sales in this urban class is \$60,000, close to the median value of \$50,000. Unlike the metropolitan histogram, which clearly indicates a pattern wherein more markets result in a divided market share, a pattern is not clearly evident in Figure 28. A trend may be less likely to emerge here as there are at most three markets in a micropolitan area, compared to as many as eight or even sixteen, in a metropolitan county. The chart may signal that in areas with smaller populations, one market could dominate the competition.

In analysis, the correlation between population and micropolitan markets is moderate – with an  $r$ -value of 0.4713 (Figure 29). Because of the small sample population, the generally positive correlation is strongly impacted by the Montgomery County Farmers' Market. If the outlier was removed, the  $r$ -value would be 0.7495, a number suggestive of a strong relationship, but the outlier, while atypical, appears to simply be indicative of a well-established market that draws customers from other counties to shop.



**Figure 28. Micropolitan Market Gross Sales and Competition for Market Share**



**Figure 29. Micropolitan Market Gross Annual Sales and Population**

A leader of the Montgomery County Farmers' Market explained in an interview that the market is producer-only, is well-established (in existence for 30 years), attracts customers from miles around, and has a strong and stable vendor base. These factors together have all the hallmarks of a strong market. In fact, the market has attracted national attention, in that it participated in a United States Department of Agriculture pilot study with the local school district to provide fresh food for school lunches. The USDA selected 15 school districts out of 300 national applicants for research involving barriers to procurement of local food in schools, and of those 15 school districts, Jefferson and Montgomery County School District were selected as case studies.

#### Rural Markets

Rural markets top out economically in the \$60,000 range, compared to the micropolitan market range of above \$80,000. While the rural farmers' market gross sales histogram has a slightly negative skew, the distribution is closer to normal than in the two preceding histogram examples (Figure 30). The median value for gross sales is \$25,000 per year.

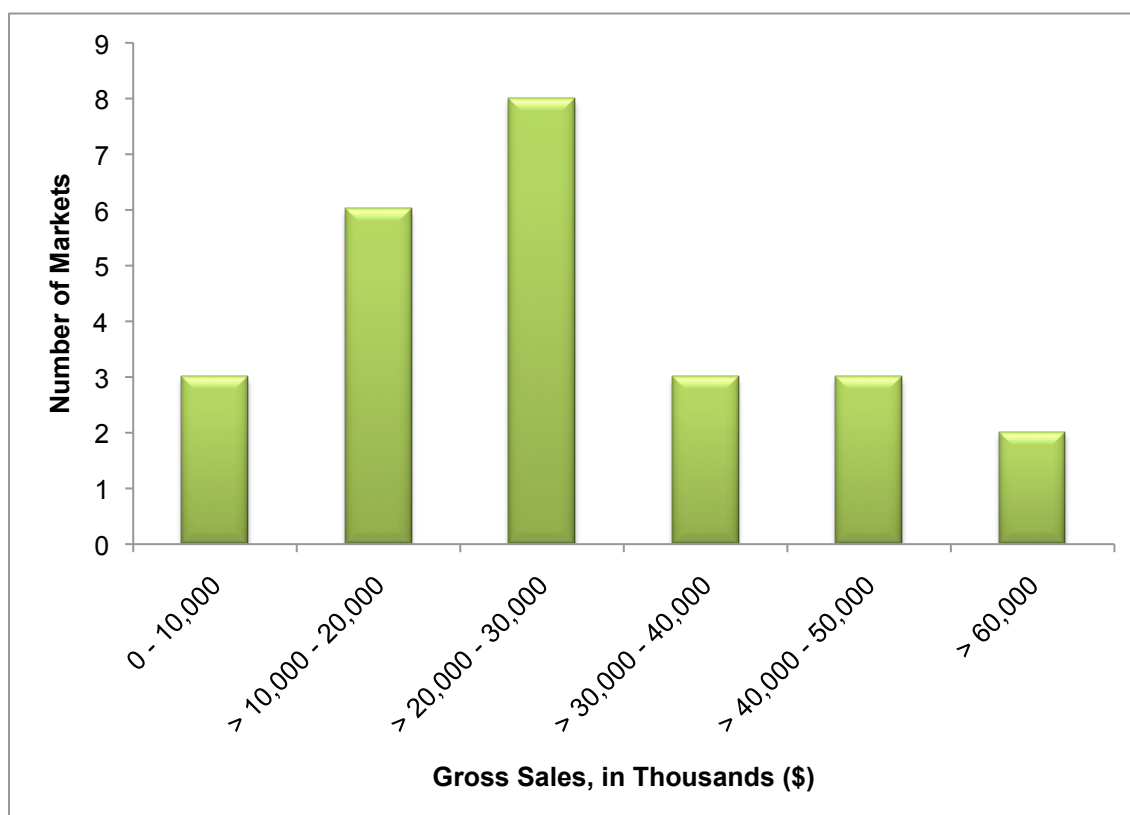
The very loose cluster of values in Figure 31 shows little correlation between market sales in rural areas and county population, with an  $r$ -value of 0.4195, as evidenced by the loose cluster of points in the figure. On the whole, the correlation values for all urban classes appear to indicate that there is more to market sales than just population.

#### *Kruskal-Wallis Analysis*

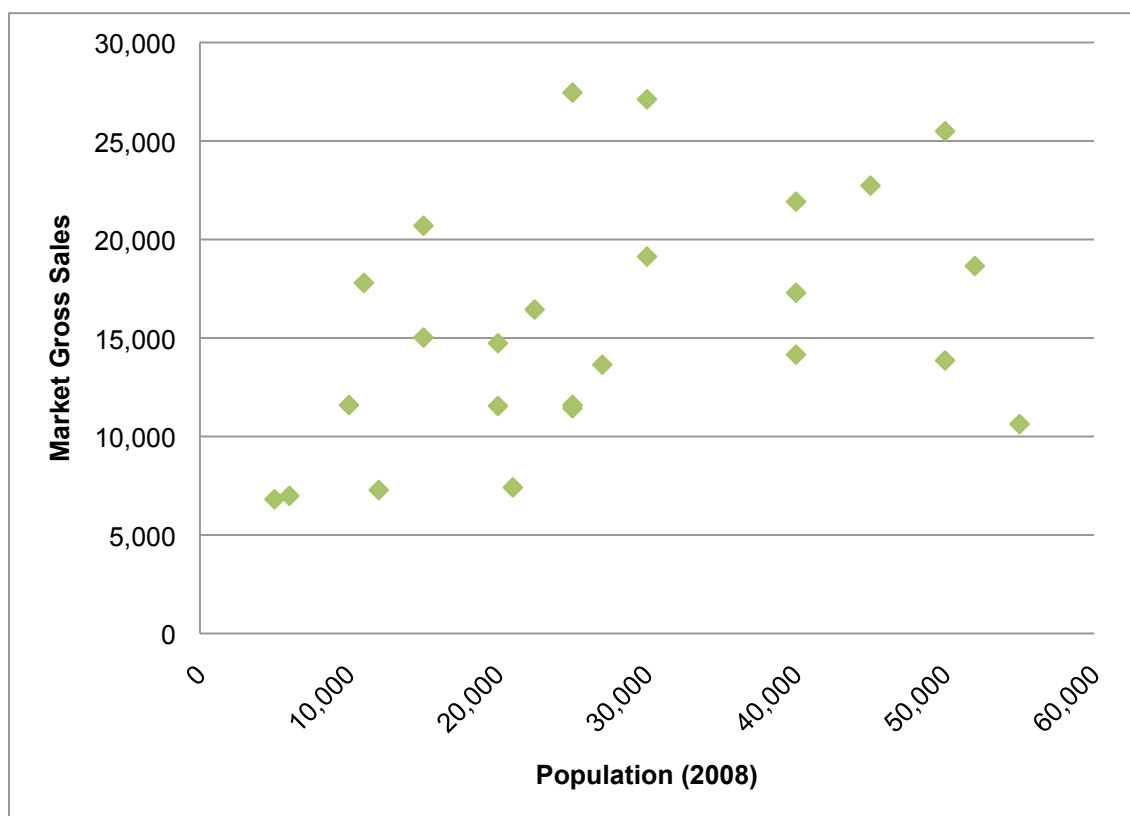
An analysis of market gross sales indicates a highly skewed distribution, as was the case with the variable of market age. Therefore, statistical analysis required a non-parametric test for analysis. The Kruskal-Wallis test, a non-parametric version of the

parametric three-sample-difference of means test, was applied to a ranked data set for market gross sales.

In the data set, 38% of the values were tied, so a correction factor for ties was employed, as required for this test when greater than 25% of the values are tied. The test yielded an H-value of 6.22 with a p-value of .049. There is a 4.9% chance of such an extreme result if the null hypothesis is in fact correct. Thus, with an alpha of .05 (5.0%) the null hypothesis is rejected. It was therefore determined that the markets come from statistically significantly different populations. The boxplot for this variable (Figure 17) indicates that rural markets generate lower sales on average than micropolitan or metropolitan markets.



**Figure 30. Rural Farmers' Markets Gross Annual Sales**



**Figure 31. Rural Market Gross Sales and Population**

In summary, a review of market sales across the three urban classes has shown some key differences and a few similarities among those classes. A moderate positive association appears to exist between market gross sales and county population levels, urban classification levels, household income, and education attainment in a community. However, rural markets appear to have a significantly lower sales average than is found in micropolitan or metropolitan areas. When data are aggregated at the county level, markets tend to have higher gross sales in areas with greater populations. Two of the urban classes displayed nearly normal histograms, but the metropolitan histogram was bimodal. The bimodal distribution may have impacted quality of the statistical analysis, due to the assumption in Kruskal-Wallis that all distributions are similar, if not normal, but all values were left in for the Kruskal-Wallis analysis to fully represent the spectrum

of markets in the Commonwealth. It is evident that more markets in an area force all markets to divide market share.

### **Farmers' Market Vendor Strength**

The data on the number of vendors at 2008 markets were substantially more complete than reporting on gross market sales. In metropolitan areas, only two of 60 markets did not report on the number of vendors participating in the market in 2008. All micropolitan markets reported on the number of vendors. One rural market of 33 did not report on the number of vendors in 2008.

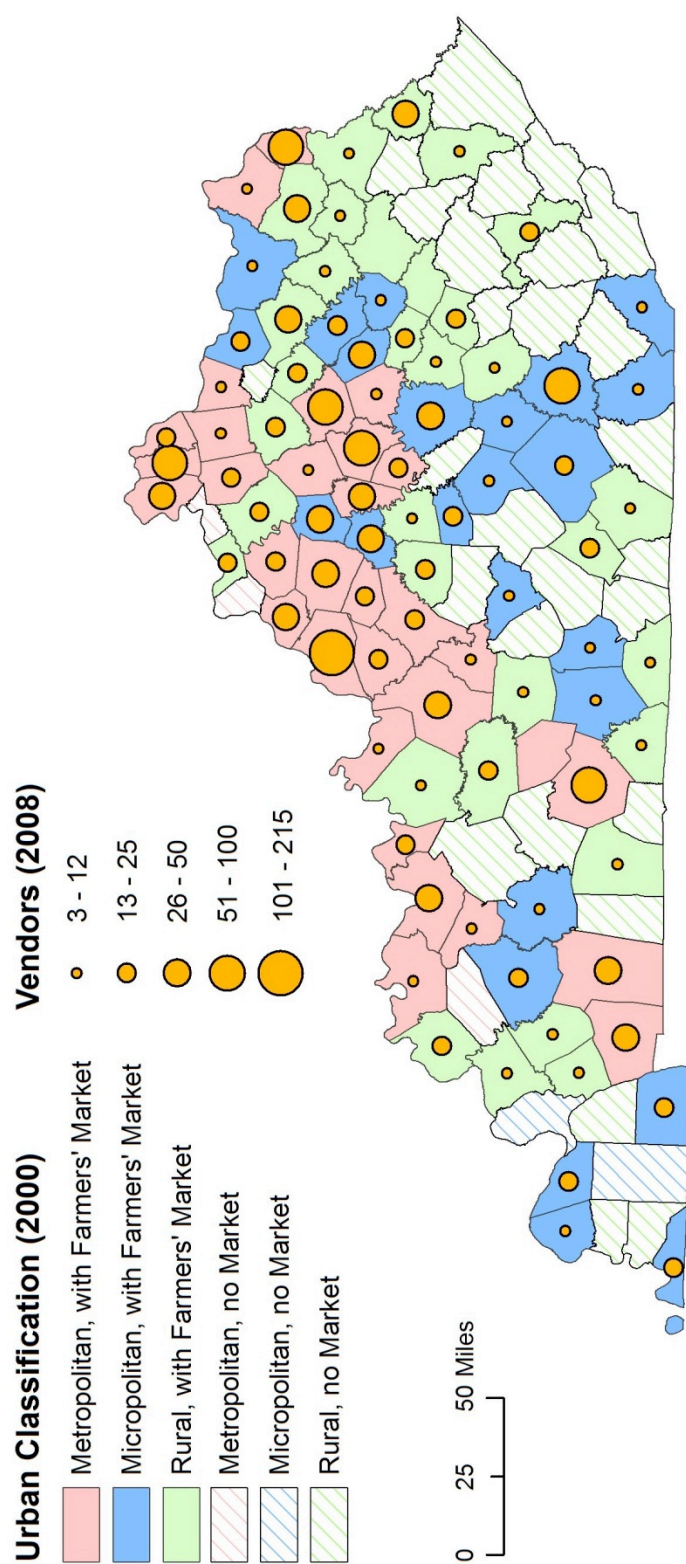
#### *Factors Related to Vendor Strength*

The total number of reported vendors in 2008 was 1,790. While this number may indicate some overlap if vendors sell at more than one market, this number is significant because it means that nearly 1800 individuals (small businesses) are benefiting economically from this network.

Figure 32 shows the distribution of vendors around the state. At a county-wide (aggregated) scale, the highest number of vendors is found in metropolitan Jefferson County, with 215 reported vendors. This is more than twice as many vendors as the next highest county, Fayette, also metropolitan, with 97 vendors. While metropolitan areas tend to host more vendors at an aggregate level, individual markets in metropolitan areas still tended to have few vendors.

The range of the vendor population for individual farmers' markets, as opposed to the number of vendors reported at the county level, is as many as 75 (2 markets) to as few as one (three markets). The top market in a metropolitan area was the Boyd County Farmers Market – tied at 75 vendors with micropolitan area London-Laurel County

# Urban Classification and Number of Vendors per County Kentucky



Cartographer: Elizabeth Schmitz

Projection: Kentucky Albers Equal Area Conic  
Data Courtesy of the Kentucky Division of Information,  
Kentucky Department of Agriculture, United States Census, and AEGIS

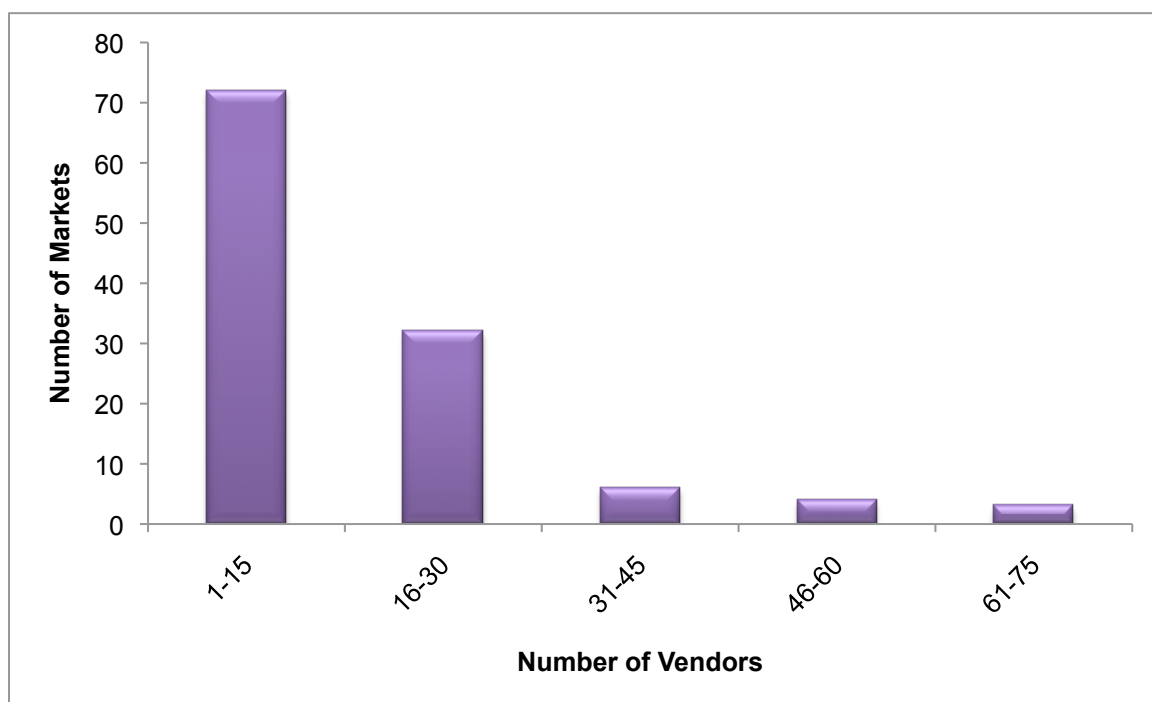
**Figure 32. Urban Classification and Number of Vendors per County**



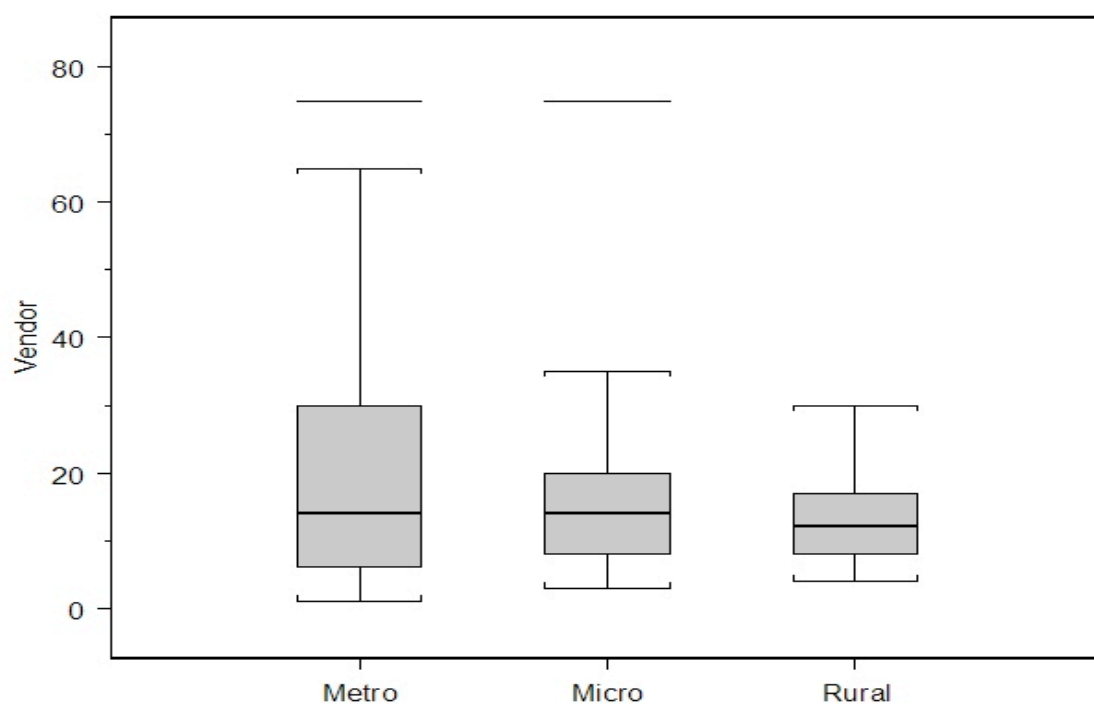
Farmers' Market. In a rural area the top markets were the Carter County (Ashland Area) and Mercer County Farmers' Markets, which both had thirty vendors. Mercer County is a rural county near Lexington and Frankfort, cities with two of the most established markets in the state. Mercer County is surrounded by micropolitan and metropolitan counties, has an industrial base provided by a coal-fired power plant, and a larger than usual amount of disposable income for a rural area. Carter County is likewise a rural county adjacent to more urban areas that may also be influenced by its neighboring counties, especially as it appears to be a thoroughfare between the metropolitan and micropolitan areas.

The average number of vendors statewide, per market, is 16.84. Among metropolitan markets the average is 19, within micropolitan markets the average is 17, and rural markets have an average of 14 vendors. This indicates that more populated areas can sustain slightly larger markets than rural areas. However, fifty of the 121 markets reported 10 or fewer vendors, so the median number of 13 market vendors may more accurately portray how many vendors you would find at random, if visiting a farmers' market in Kentucky. Standard deviation for this data set is 14.63, which means that most markets have vendor levels plus or minus 15 vendors from the mean of 16.84. In other words, roughly two-thirds of the markets in Kentucky will have between 2 and 32 vendors. The wide spread of the data set – ranging from 1 vendor to 75 vendors at any given market – influences the standard deviation, in this case making it large relative to the average.

The histogram of vendor strength for all urban classes (Figure 33) shows the few markets with high numbers of vendors as the values pulling the tail of the distribution to



**Figure 33. Vendor Strength for Individual Kentucky Markets**



**Figure 34. Vendor Populations in Metropolitan, Micropolitan, and Rural Counties**

the right, creating a positive skew of 1.98. This exponentially decreasing histogram shows that the majority of markets have fewer than 15 vendors, as described by the median value. The concentration of vendors found in the first bar of the histogram increases the kurtosis of the data set to 4.62. Generally, kurtosis values over three are considered to be leptokurtic, or peaked (McGrew and Hill, 2000). However, the kurtosis and skew are less exaggerated in this distribution than are found in the gross sales or age categories. A boxplot (Figure 34) of the vendors divided by urban class shows that the groups have similar medians.

A map overlaying vendor distribution and median household income shows some agreement between the two variables (Figure 35), but the percentage of the population with a bachelor's degree appears to be an even stronger association, indicating that education may be essential in the development of a local food economy (Figure 36).

The top eleven markets in terms of vendor strength as measured in absolute numbers are: Boyd County Farmers Market, London-Laurel County Farmers' Market, Paris Bourbon County Farmers Market, Lexington Farmers Market (Fayette County), Heart of St. Matthews Farmers' Market (Jefferson County), Cadiz Farmers Market (Trigg County), Boone County Farmers Market, Montgomery County Farmers Market, Franklin County Farmers' Market, and the Bradford Square Farmers' Market (Christian County), as shown in Figure 37. Of these markets, seven are metropolitan markets and three are micropolitan, the same pattern seen with the gross sales variable. The markets with fewest vendors are almost evenly split among urban classification – 6 in metropolitan areas, four in micropolitan areas, and four in rural areas. With the exception of one rural market that was formed in 1991, the markets were 10 years old or newer (Figure 38).

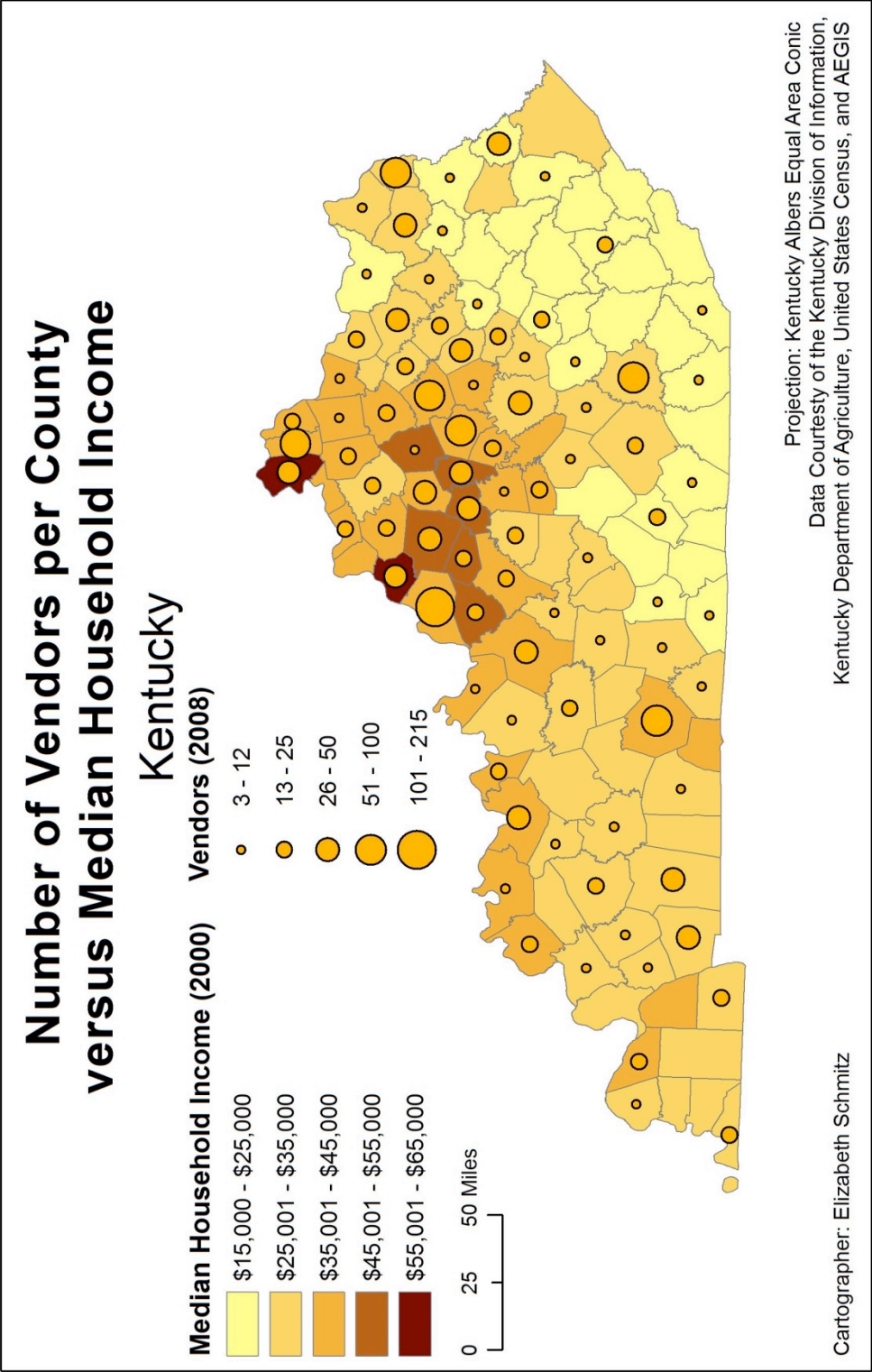
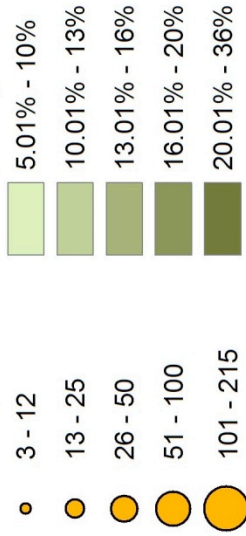


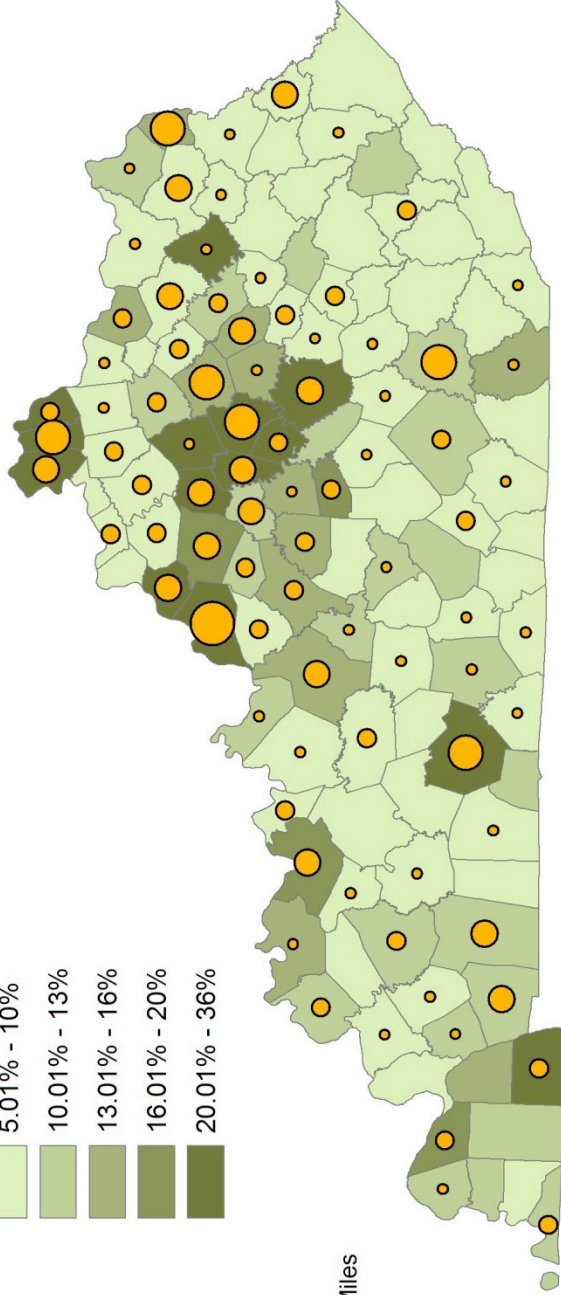
Figure 35. Number of Vendors per County versus Median Household Income

# **Number of Market Vendors Aggregated at the County Level versus Percentage of Population with a Bachelor's Degree** Kentucky Counties

**Vendors (2008)**      **College Degree (2000)**



0 25 50 Miles



Cartographer: Elizabeth Schmitz

Projection: Kentucky Albers Equal Area Conic  
Data Courtesy of the Kentucky Division of Information, Kentucky  
Department of Agriculture, University of Louisville, United States Census, and AEGIS

**Figure 36. Aggregate Number of Market Vendors versus Percentage of Population with a Bachelor's Degree**

Rank	Market	Vendors	Gross Sales (\$)	Year Established	Population
1	Boyd County Farmers Market	75	75,000	1995	48,560
1	London-Laurel Co Farmers' Market	75	N/A	N/A	57,586
3	Paris Bourbon County Farmers Market	65	N/A	N/A	19,828
4	Lexington Farmers' Market	60	2,301,470	1975	282,114
4	Heart of St. Matthews Farmers' Market	60	N/A	2007	713,877
5	Cadiz Farmers Market	50	250,000	2001	13,418
6	Boone County Farmers Market	46	811,283	1987	115,231
7	Montgomery County Farmers Market	35	250,000	1975	25,618
7	Franklin County Farmers' Market	35	122,000	1950	48,844
7	Bradford Square Farmers' Market	35	N/A	1991	79,820
7	Woodford County Farmers' Market	35	N/A	1995	24,526

**Figure 37. Top Eleven Markets Ranked by Vendor Strength, 2008**

*Vendor Strength by Urban Classification*

A majority of markets (63%) reported 15 or fewer vendors. The histograms in Figures 33, 39, 40, and 41 clearly demonstrate that most farmers' markets in Kentucky have 15 or fewer vendors, although as elsewhere, the histograms do not have the same axes and cannot be used comparatively. The composite distribution of Figure 33 holds when the markets are divided into the three urban classes, with the exception of the rural markets, which have a fairly even distribution; although still with a positive skew. The metropolitan and micropolitan vendor levels both reach 75 at one market, but in rural

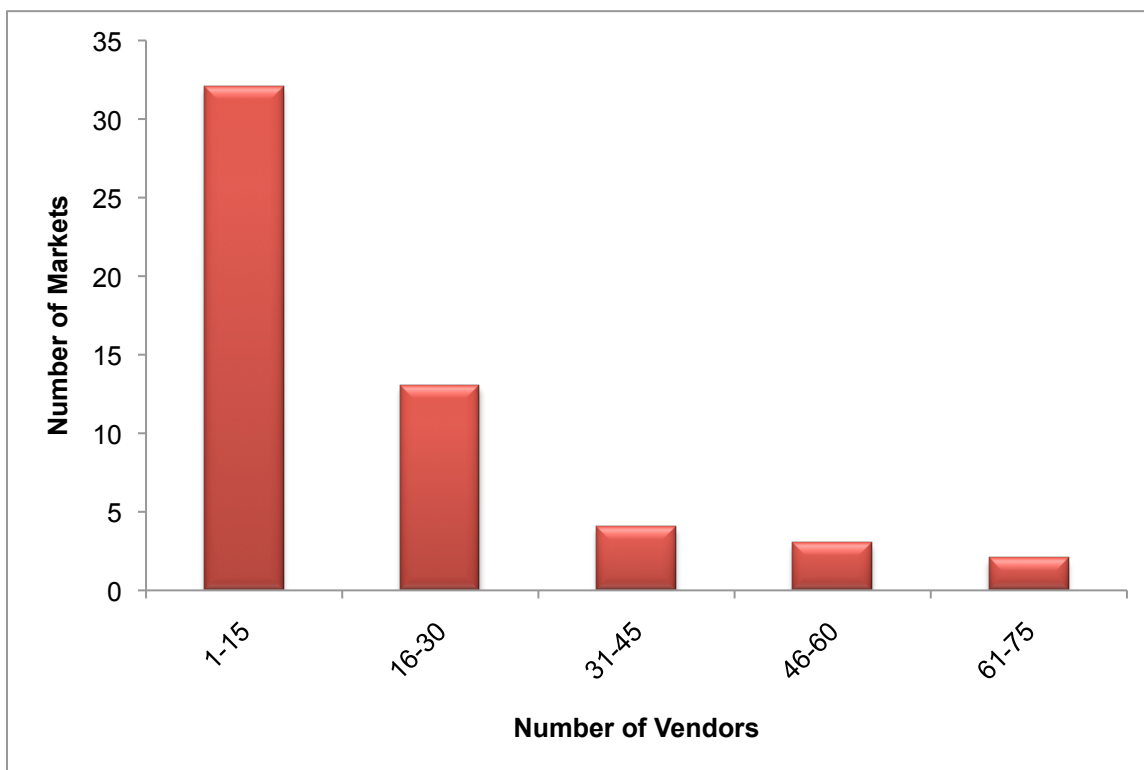
Rank	Market	Vendors	Gross Sales (\$)	Year	Population
1	Russell Neighborhood Farmers' Market	1	N/A	2008	713,877
2	Meade County Farmers' Market	3	35,000	2003	27,043
2	Calhoun Farmers Market	3	6,000	2004	9,681
2	Middlesboro Farmers' Market	3	3,000	2007	29,055
2	Livermore Farmers Market	3	N/A	2008	9,681
6	Dawson Springs Main Street Farmers Market	4	50,000	2004	46,338
6	18th Street Farmers' Market	4	50,000	2006	713,877
6	Mountain Farmers' Market	4	21,000	1991	7,414
6	Bracken County Farmers Market	4	9,000	1998	8,569
6	Family Roadside Farmers Market	4	8,000	1999	25,549
6	Caldwell County Farmers' Market	4	N/A	N/A	12,866
6	Marion Farmers Market	4	N/A	N/A	9,244
6	Lyon County Farmers' Market	4	N/A	2005	8,245
6	Pewee Valley Farmers Market	4	N/A	2007	56,874

**Figure 38. Thirteen Smallest Markets Ranked by Vendor Strength**

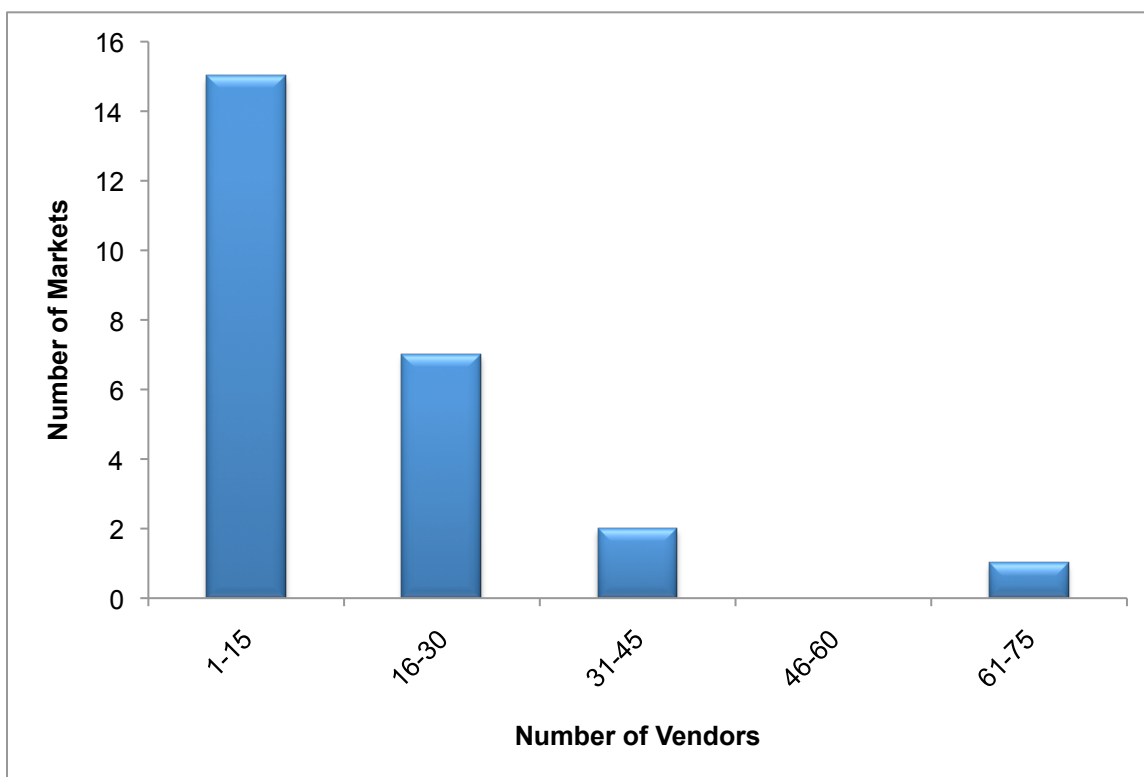
areas the maximum number of vendors is 30. However, even in urban areas, the bulk of vendors remain in the category of one-to-fifteen vendors per market. The skew of the data in all data sets for vendors by urban class indicates that the non-parametric Kruskal-Wallis test will need to be used for statistical analysis.

#### *Correlation Analysis by Urban Classification*

Figure 42 provides further evidence of a link between vendor strength and county population. The map in Figure 42 shows more vendors in counties with a greater population. The scatterplot in Figure 43, which has data for all Kentucky counties,

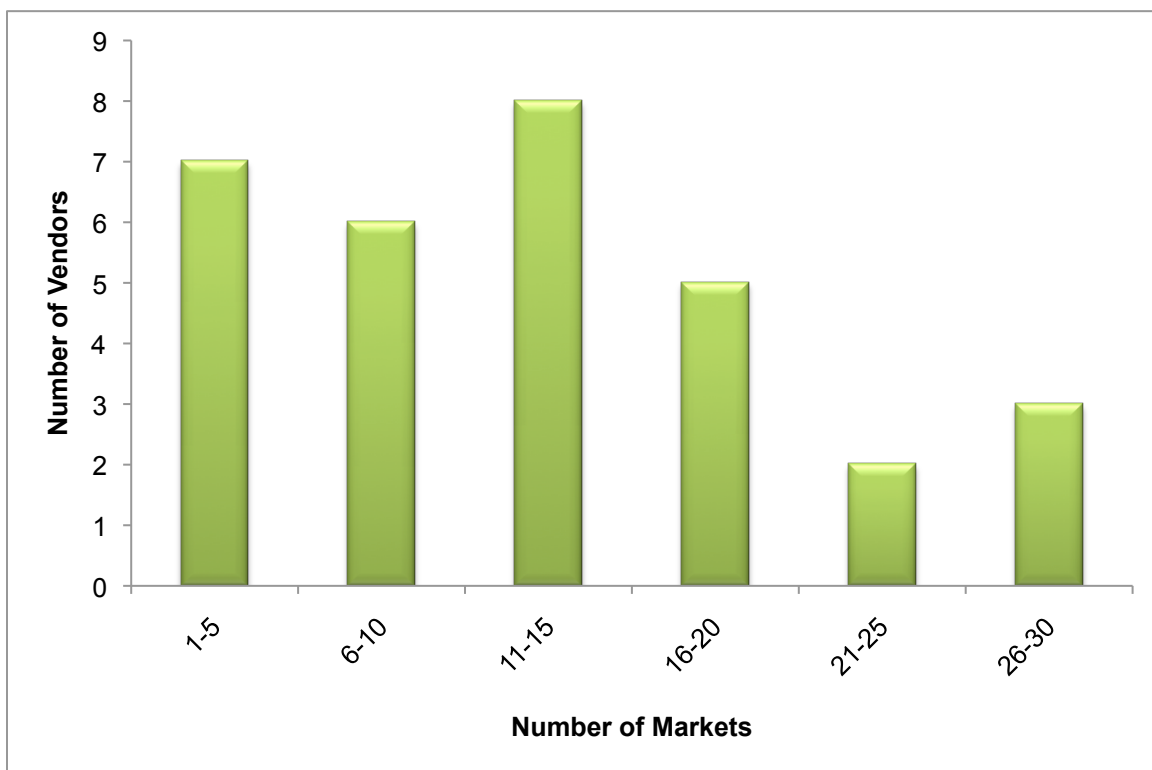


**Figure 39. Market Vendor Strength in Metropolitan Areas**



**Figure 40. Market Vendor Strength at Markets in Micropolitan Areas**





**Figure 41. Market Vendor Strength in Rural Areas**

indicates a moderately positive correlation with an  $r$ -value of 0.5673. The correlation value was significantly influenced by the outliers of Jefferson and Fayette counties, as prior to their removal the correlation was 0.8679 – this suggested a stronger relationship than what actually exists. These outliers are not considered typical of Kentucky markets due to the influence of large urban populations, and are removed in the graphed scatterplot. County vendor concentration levels were aggregated from market data (all of the vendors from all of the markets in each county were added together) and there may be some overlap in the vendor count if vendors sold at multiple markets in the same county although this effect is likely to be most evident in areas with multiple markets, such as Jefferson County.

In correlation analysis by market class, the metropolitan markets (Figure 44) display a slight correlation with population (0.358), shown without the influence of the

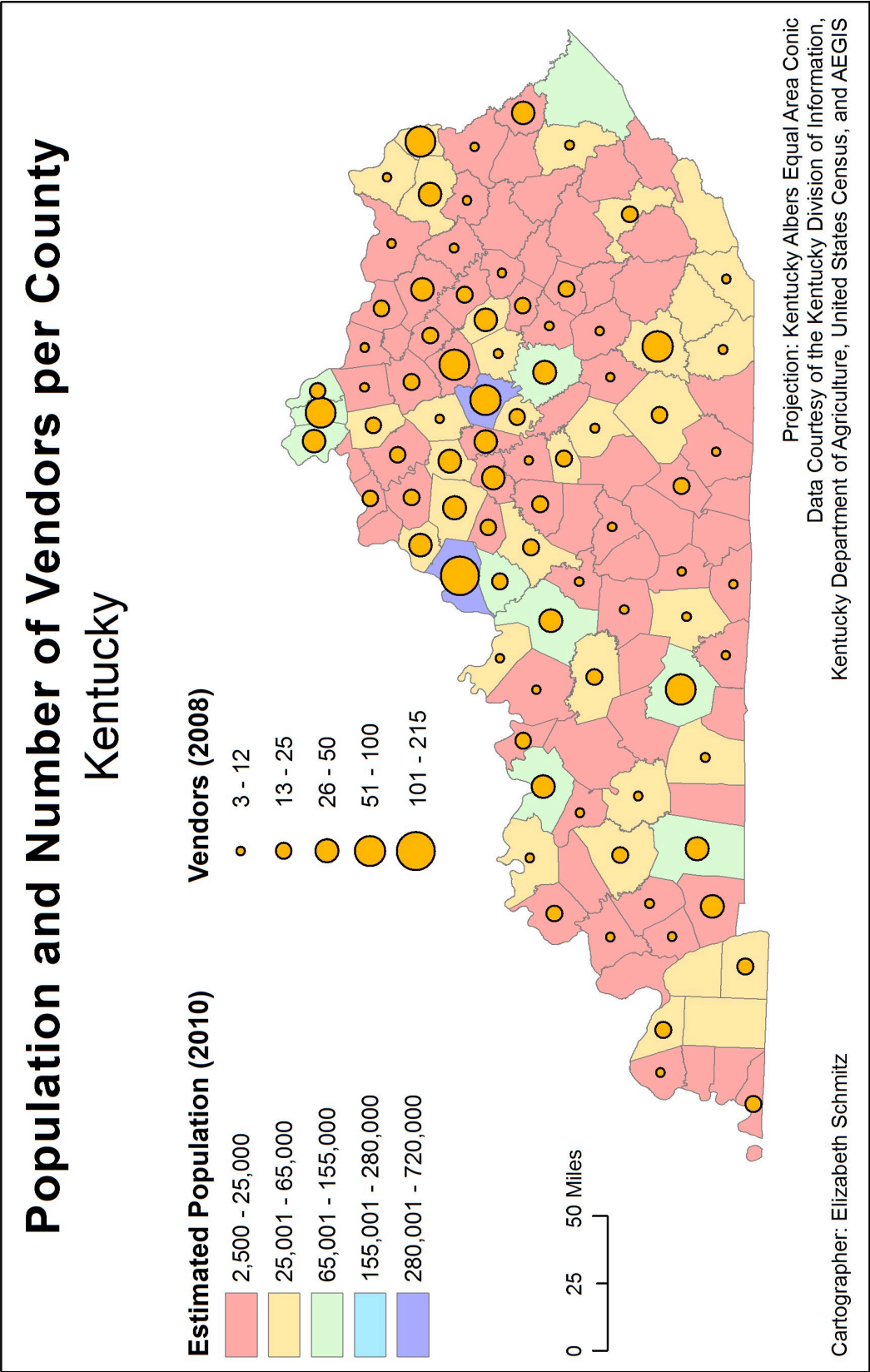
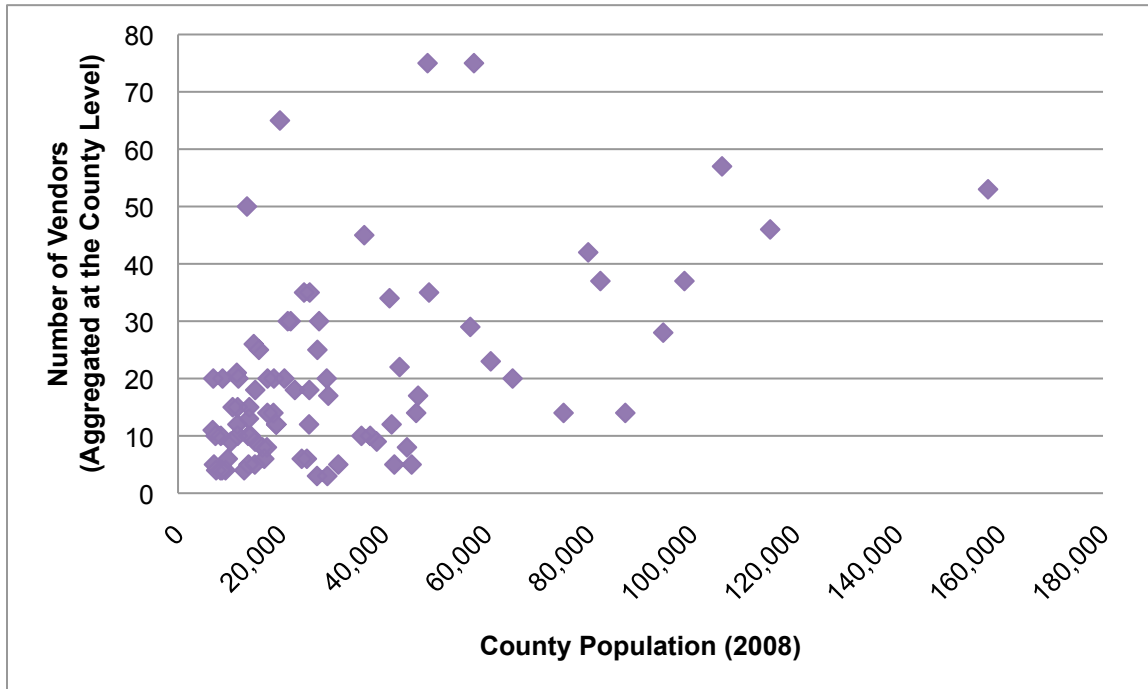


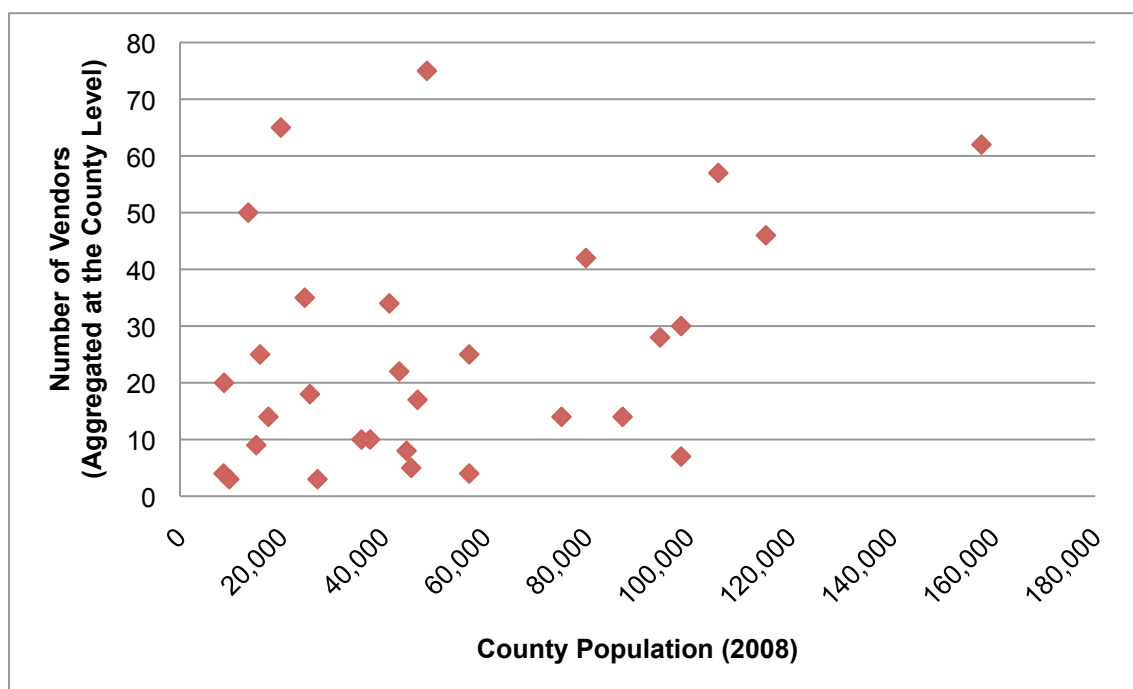
Figure 42. Population and Number of Vendors per County



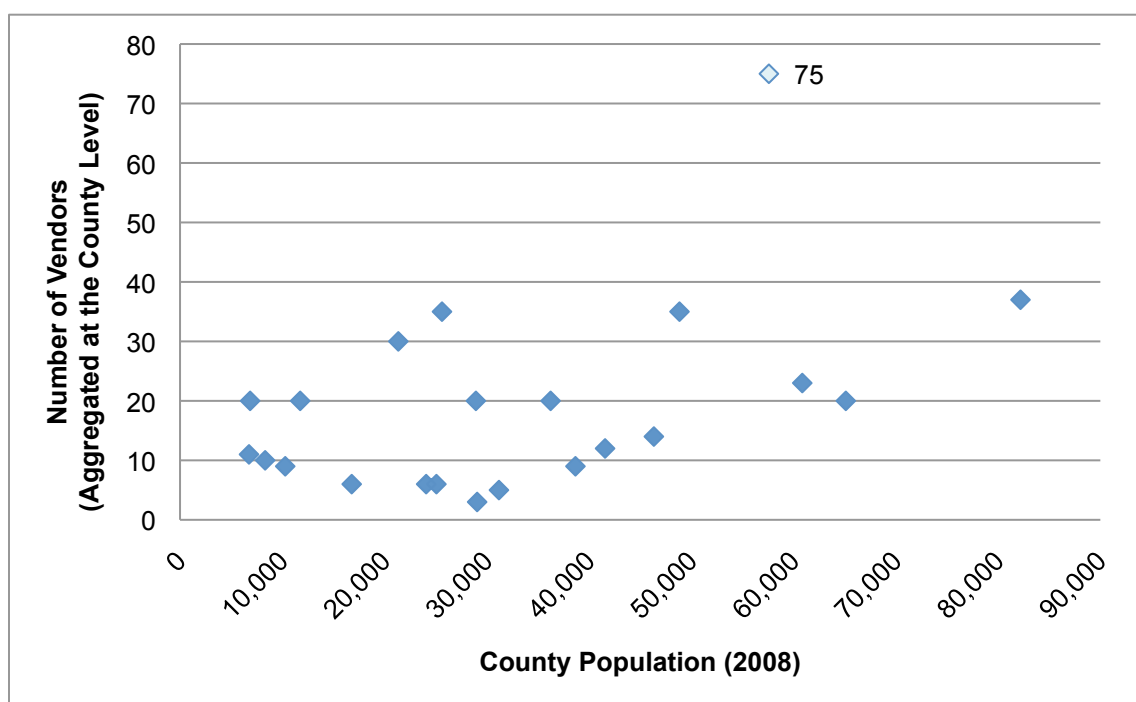
**Figure 43. County Population and Number of Market Vendors**

same outliers that influenced the correlation value in Figure 43. The correlation with the outliers included was 0.8860, showing the strong influence of these outliers. The micropolitan markets have a moderate correlation between vendors and population, with an  $r$ -value of 0.4793 that is not significantly influenced by the highlighted outlier representing Laurel County in the Southeastern part of the state (Figure 45).

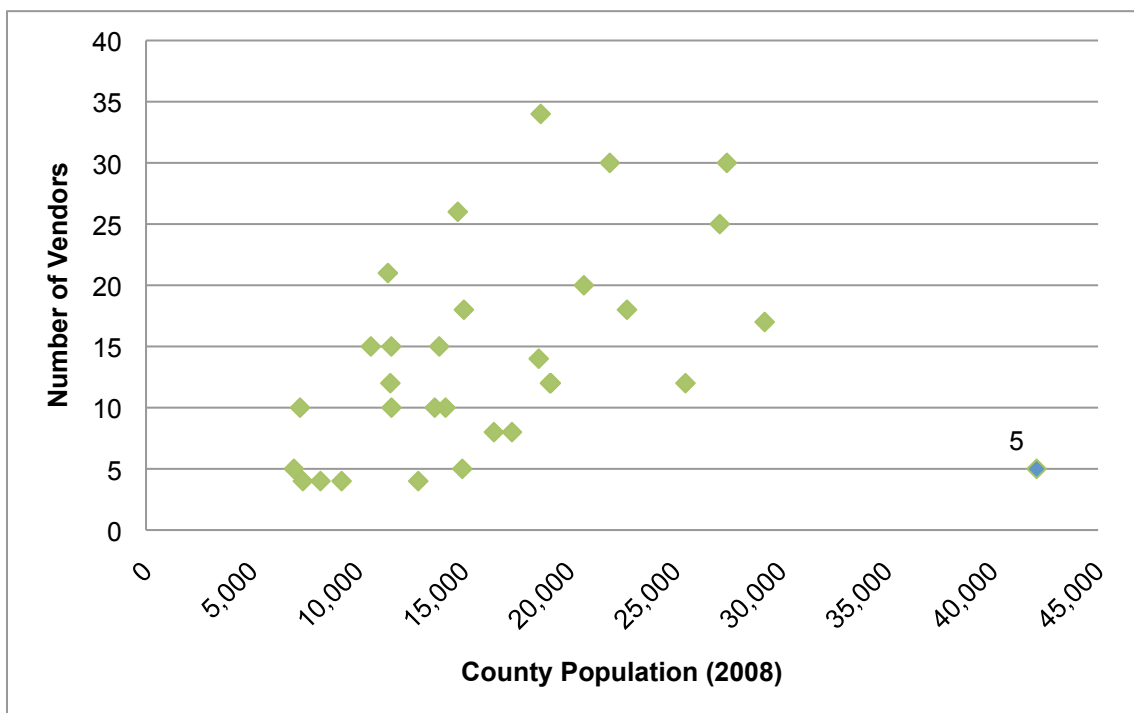
Rural area markets have a slight correlation between vendor strength and population, with a correlation value of 0.3302 that is not significantly influenced by the outlier of Wolfe County in the Eastern part of the state (Figure 46). A number of markets have high numbers of vendors for a small population, including Owen, Mercer, Carter, and Fleming County Markets. Markets in rural areas with high vendor numbers may indicate a change in lifestyles and trend toward less home gardening in those areas, or perhaps an aging of the population, a trend that was noted by some rural market leaders during the 2010 market survey.



**Figure 44. Metropolitan Population and Number of Market Vendors**



**Figure 45. Micropolitan Population and Number of Market Vendors**



**Figure 46. Rural Population and Number of Market Vendors**

*Kruskal-Wallis Analysis*

An analysis of market vendor strength indicates a highly skewed distribution, as was the case with the variables of age and gross sales. Therefore, statistical analysis required a non-parametric test for analysis. The non-parametric Kruskal-Wallis test was applied to a ranked data set, divided into the three urban classes, for the variable of market vendor strength.

In the data set, 86% of the values were tied, so a correction factor for ties was employed. The test yielded an H-value of 0.78 with a p-value of 0.68. There is a 68% chance of such a result if the null hypothesis is in fact correct. Hence, with an alpha of .05 (5.0%) the null hypothesis cannot be rejected. It was therefore determined that in the case of the number of vendors at any market in the state, the markets in each urban class may not come from significantly different populations. Exploratory statistical analysis of this variable has shown that two of the urban classification distributions (metropolitan

and micropolitan) are exponentially decreasing and highly skewed; while the rural distribution is bell-shaped, so these differences could have impacted the outcome of the analysis, which assumes that the three groups have similar distributions..

When aggregated at the county level, metropolitan markets appear to be able to pull a number of vendors commiserate with the population of a county. This relationship is not demonstrated as clearly in micropolitan or rural areas. However, individual markets tend to have fewer than 15 vendors whether the market is located in an urban, rural, or micropolitan area. This seems to indicate that market dispersion is forcing markets to compete for vendors in urban areas, or that market size is constrained by local population and customer counts. A strong vendor base seems to be associated with average household income, and ties nicely to the educational attainment levels in a community.

### **Benefits of markets**

The benefits of markets as described by the Project for Public Spaces (2002) are that they renew downtowns and neighborhoods, create more active public space, bring together diverse people, provide economic opportunity, link urban and rural economies, and promote public health. Both the 2010 statewide survey of market leaders and the case study of the SKy market echo these themes.

In the 2010 statewide survey, when asked in an open response question how they felt their market benefited the general community, market leaders most often mentioned community building (Figure 47). The social and community building aspect of markets came through on three levels in both the statewide survey and in interviews with farmers. The urban community finds farmers' markets a good gathering place to visit with friends

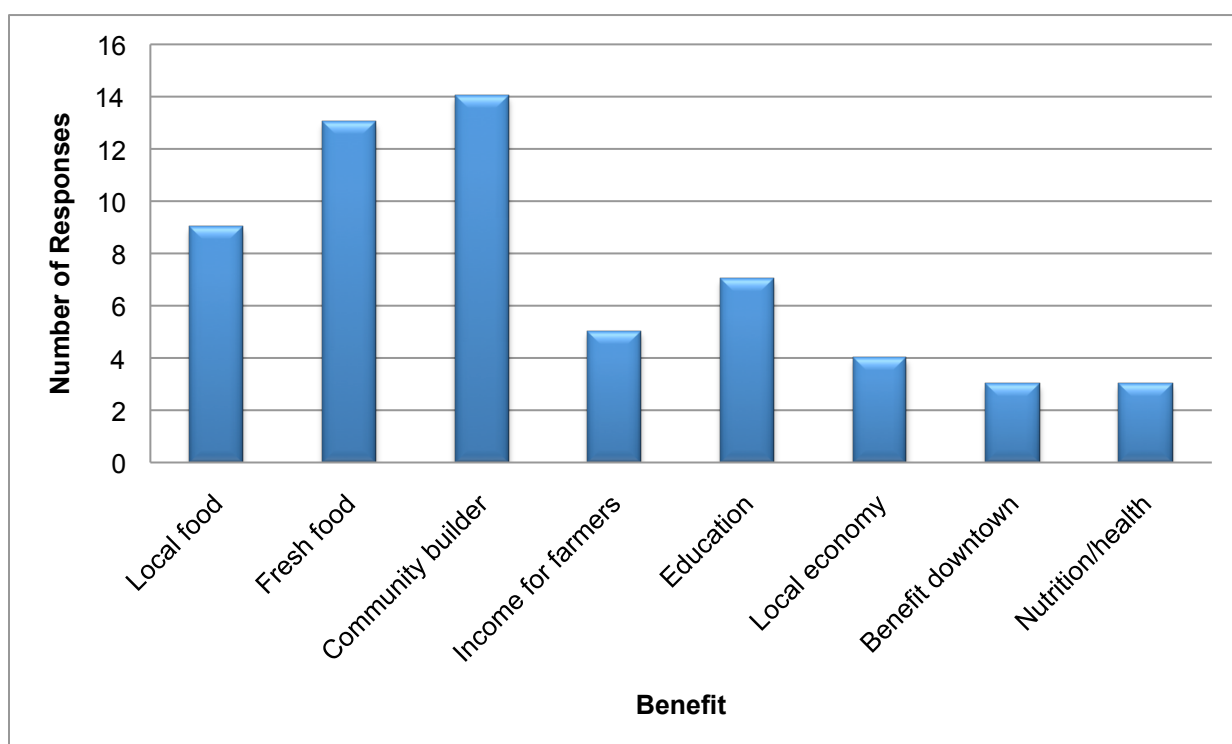
and neighbors. Farmers mentioned markets as a place for them to network with other farmers and form community with other farmers. Many market leaders felt great importance in relationships being built by the consumer getting to know his or her farmer.

Statewide, the freshness of food was mentioned nearly as often as community building, as an important benefit of farmers' markets (42%, 13 of 31 responses). In addition to freshness, the increased availability of nutritional and healthy choices was cited as a benefit by multiple respondents. Nine of 31 (29%) statewide survey respondents indicated that the availability of local products was the most important benefit of a farmers' market, a sentiment tied to freshness, community development, and economic concerns. The important role that farmers' markets play in education and awareness about healthy eating and local food was mentioned by seven of 31 respondents (23%).

Economic opportunity came up in the statewide survey in terms of entrepreneurial skill building, commodity diversification, and boosting both downtown redevelopment and the local economy. The value of farmers' markets as small business incubators was evident at the SKy Regional Farmers' Market, where a number of small crafting businesses have taken root. In addition, a local coffee shop was initiated at the market and now has a full time business operation in another part of town, although the coffee roasters still attend the market to sell coffee there. Inexpensive food was listed, albeit infrequently, as a benefit brought to local communities by farmers' markets.

In the statewide survey results, little emphasis was placed on benefits to the farmer, other than through community building and skill building, although five of 31

respondents mentioned increased income for farmers. However, interviews with farmers and market leaders did show that vendors find the market benefits them economically and socially. In interviews, farmers revealed that farmers' markets offer a better price point than can be obtained through auction houses or restaurants. Another benefit over restaurant sales was that fewer trips to town for sales were required, allowing for more time in the fields and less transport expense.

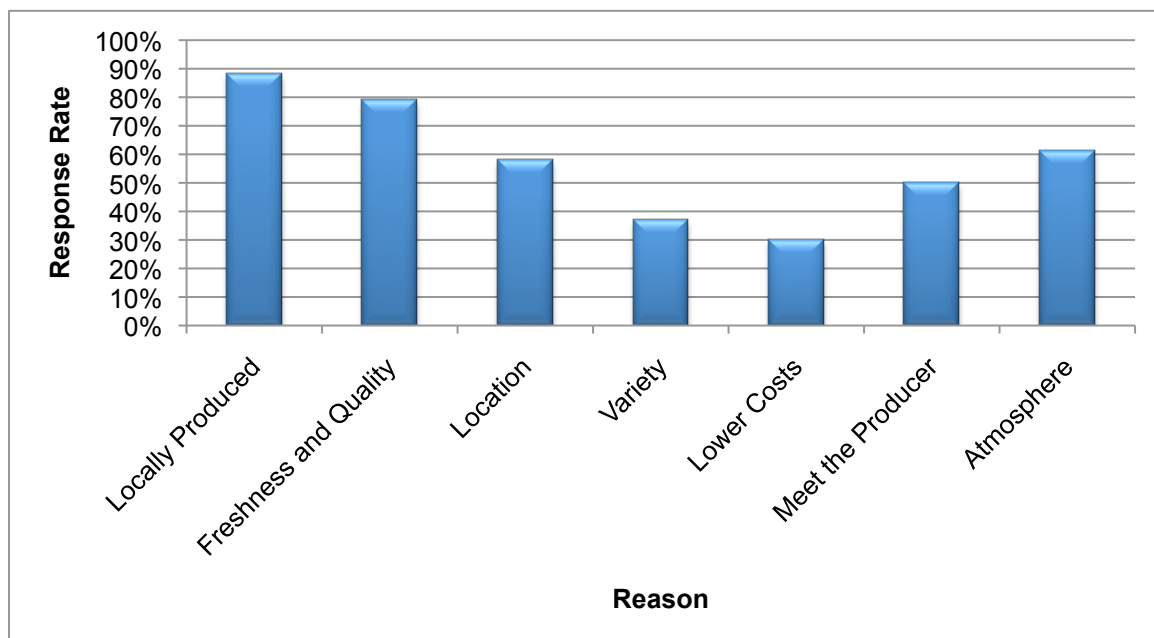


**Figure 47. Multiple Benefits of Farmers' Markets**

In the case study of the SKy Regional Farmers' Market, customer surveys revealed a similar trend in response to the question: Why do you choose to shop at the market?" Foremost, customers said that they appreciated the opportunity to buy local produce. In the statewide survey, only 27% of respondents said that they felt local was an important benefit that their market brings to the community, whereas 90% of consumers at the producer-only SKy market said that the primary reason for shopping



there was that the product was local. Freshness and quality were the next highest responses, in a bulleted list that allowed customers to choose as many responses as they wanted. Atmosphere was the next highest category, closely followed by location. Lower cost was chosen, but not nearly as often as other factors. Cost was selected less than 30% of the time, as compared to nearly a 90% response rate for the choice, “locally produced.”



**Figure 48. Reason for Choosing the Southern Kentucky Regional Farmers’ Market**

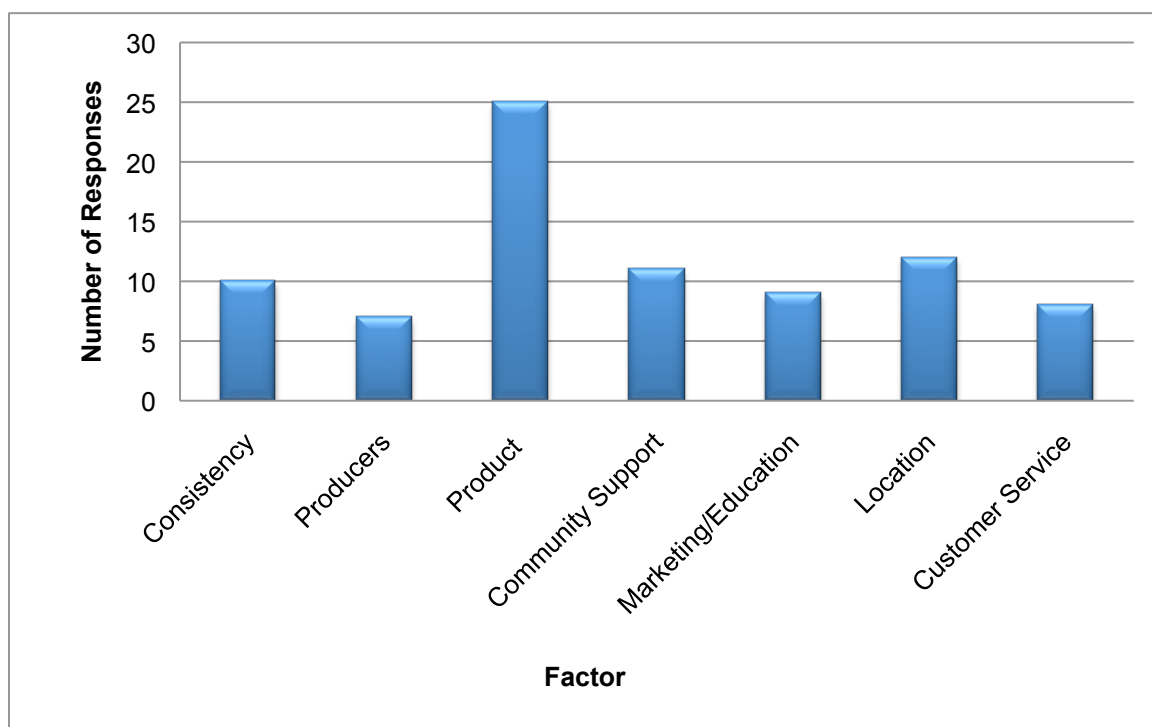
Only 35% of customers mentioned variety, the second-lowest reason given for shopping at the market. At that time, customers requested more organic vendors, fruit and crafts, which the market has since added, although certified organic product is not generally featured. However, at the time the surveys were taken the market was in its first year and had a small core of approximately 10 vendors – in fact, one of the primary requests from customers was for more vendors. Now the SKy Regional Farmers’ Market has 41 vendors, and variety has dramatically increased. Variety is a primary reason that SKy market vendors feel their market is successful and was mentioned time and time again in interviews. This is in terms of both diversity of vendor types (i.e. vegetables,

meat, dairy, soap, pottery, art), as well as in the diversity of product found at each booth. SKy Regional Farmers' Market Board of Director members mentioned that due to limited vendor space, they screen applicants, looking for unique products that will broaden product diversity at the market without creating more competition for already established vendors. For example, if the market already has one or more strawberry vendors, the Board is more likely to accept a blackberry vendor than another strawberry vendor. A number of vendors mentioned that product variety is essential to attracting customers. Vendors felt that it was important to have a product that nobody else offered. This leads to growers diversifying their farms, offering heirloom varieties, investing in new product lines, and finding other ways to add value to their products.

To assess factors that contribute to market longevity in Kentucky, statewide survey participants were asked what factors they felt were most important for market success (Figure 49). Nearly 60% of responses were related to maintaining the quality and diversity of product at the market – buzzwords used by participants included local, fresh, quality, diversity, quantity, and clean. One market leader said, “A market must establish an identity with its customers, and maintain its quality and selection of products.” Another market leader responded,

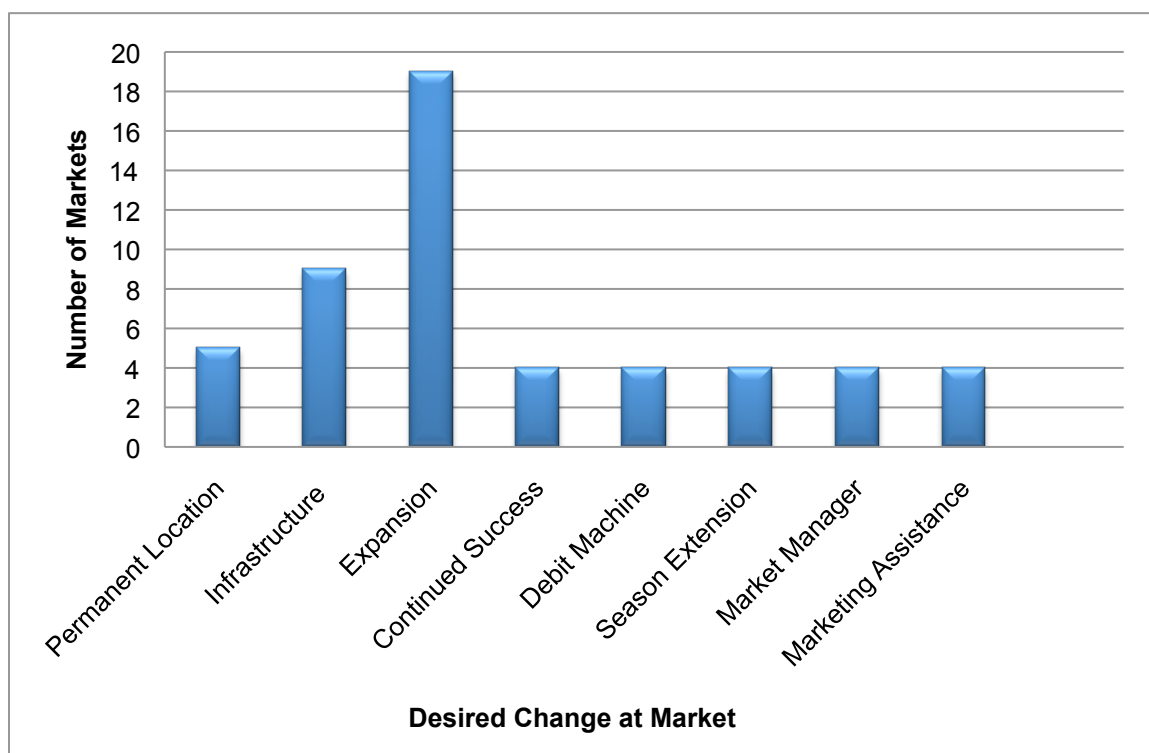
The fact that we are a 100% grower/producer market is very important to the vendors who are in this market. We are better able to compete on a more even basis with each other. We are also a member driven market and each member/vendor is expected to contribute something to the market other than just bringing their product, setting up, selling and then leaving.

Many market leaders responded that location was essential, with others identifying the importance of community support, consistent vendor presence, marketing and educational outreach, and good customer service to market longevity.



**Figure 49. Important Factors for Market Success as Identified by Market Leaders**  
**Future Market Sustainability**

In the statewide survey, when asked what was on their market “wish list,” the majority of market leaders said they desired market expansion, the development of infrastructure, and a permanent location (Figure 50). A permanent location and the addition of market infrastructure elevate the perceived level of importance of the market in the community and increases visibility. Each time a market must change location, it loses customers. Almost all market leaders felt that customer demand for farmers’ markets has increased, with very few market leaders noting decreasing sales over the last few years. However, vendors expressed concern that their customer base has plateaued. Nationally, and in customer counts at the SKy Regional Farmers’ Market, an estimated one percent of the population shops at farmers’ markets on a given day, leaving a considerable potential customer base that might be tapped by a new market in a different



**Figure 50. Market Leader Wish Lists**

part of town. This kind of development could further expand the reach of the local food. Several markets wished for more customers, and methods to attract them could be an avenue for further research. The vendor base, now exceeding consumer demand, must find the consumer. “Follow the Kroger’s,” was one farmers’ advice. “They’ve already done the research.” Strategies to grow the customer base of farmers’ markets could include expanding the reach of farmers’ markets by holding the market in different parts of town on different days, employing social marketing campaigns, and accepting food stamps or debit cards. Market farmers stated that they wanted to cap the market vendor levels in order to limit competition. In addition, many markets face space constraints that limit expansion of their vendor base. This may in part explain why markets tend to have around the same number of vendors, regardless of urban class.

A number of market leaders, particularly in metropolitan areas, wished for a

permanent structure. This would fit well with the urban landscape, and customers shop longer at a covered market. Market farmers noted that a covered structure would need to be “done right,” – in other words, the open-air feel of the market needs to be preserved. Many successful markets have both indoor and outdoor components, as many vendors and customers want to be outside. An outdoor market attracts attention and therefore customers, creating a draw for the market inside.

The market season in Kentucky is fraught with extremes that include heavy wind, thunderstorms, and extreme heat and humidity. Providing shelter for vendors and customers would give each group some degree of certainty that both parties would show up at the market, and also provide a certain level of comfort and even physical safety in terms of protection from the elements. Bathrooms could also serve as tornado shelters. Shelter would protect farmers’ delicate produce from the hot sun, and their potted plants from the rain. One farmer specifically noted that his sales went down on rainy days, not only because of fewer customers, but additionally because people don’t want to put wet potted plants in their cars – and that he could sometimes move the product by telling people that he had dry hanging flower baskets in his trailer. Some vendors mentioned that they had lost multiple tents at the market due to windy conditions and that dealing with tents in the wind was an ordeal. The convenience of reduced market set-up and take-down time was mentioned in regards to the benefits of a permanent structure. A minority opinion expressed was that when the weather is poor, people don’t come out regardless and that such infrastructure would not impact market customer counts.

Many urban market leaders wished for hand washing stations and/or bathrooms, infrastructure that would allow vendors to offer samples of their product and allow

customers to stay at the market longer. Currently in Kentucky, product can only be sampled if a hand washing station is present. Many vendors believe that sampling would increase sales, but that transporting and setting up a hand washing station, in addition to everything else, was more trouble than it was worth. One market leader wished for a certified kitchen so that she could teach customers how to cook with the food produced, which would presumably expand sales and teach the consumer how to use unfamiliar market items, such as kale, bok choy, or rutabaga.

Market structures make sense in an urban setting – in many cases more so than in a rural setting, where the infrastructure is in place but is hardly used. During interviews, one farmer noted that he would not be going back to a certain rural market, despite the pavilion and bathrooms, because the last time he was there he was the only vendor and only a handful of customers came through. “People think that customers will shop a market because it is right off the interstate,” he said, referring to the policy-makers who placed the market in that location. “People traveling on the interstate aren’t stopping to buy produce!” he exclaimed.

Permanent infrastructure for key metropolitan markets would also give markets access to electricity, which would remove one barrier to markets’ ability to use electronic debit transfer (EDT) machines that allow for the use of debit cards and/or electronic food stamps. In addition to lack of electricity, the cost of the EDT machine and EDT transactions creates a barrier to their use at farmers’ markets. However, in a limited cash society, people are likely to spend more money at a market if they can access their funds through an EDT system on site rather than have to travel to an off-site ATM and return. In the surveys, a number of market leaders wished for more customers, and these markets

might be able to broaden their reach by catering to those who spend with plastic.

Furthermore, markets could broaden their customer base and community reach by actively supporting senior citizens, the Women, Infants, and Children benefits program, and food stamps – all citizens who need access to good nutrition.

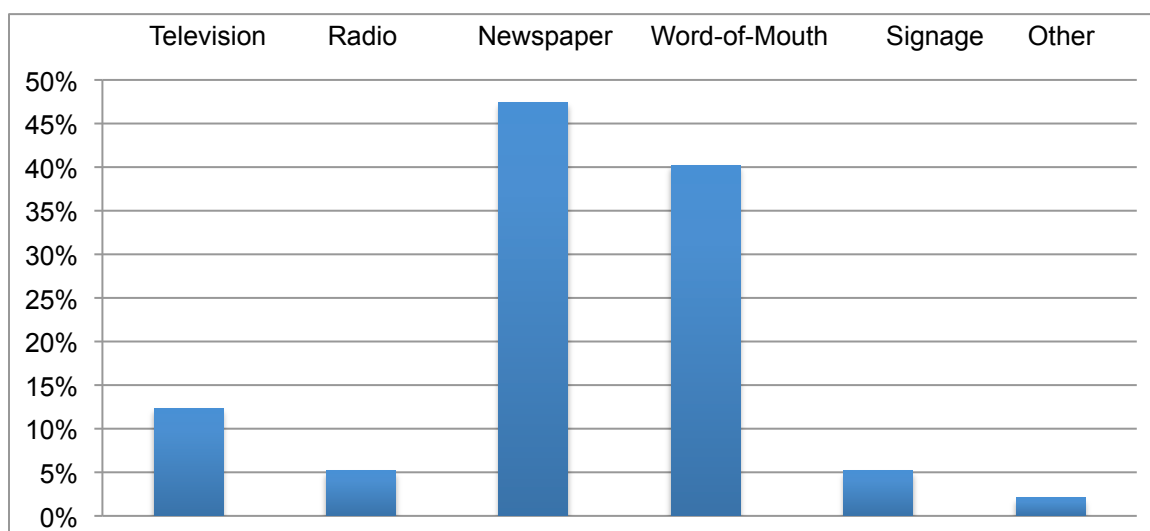
In addition to the needs discussed above, market leaders want expansion in terms of product, parking, and funding. They also feel their markets need a market manager in some cases, or better market management in others. Season extension was mentioned as an important tool for increasing market success. Market leaders believe that marketing assistance and promotional items are essential. They also recognized the importance of new and diverse products, such as cheese, or prepared food such as sandwiches and beverages.

### *Marketing and Outreach*

In addition to educating consumers, markets also need to let consumers know they exist. Markets need to remind customers they are there, even after they are well-established, a point mentioned in several interviews. Market advertising should focus on word of mouth campaigns (internet, email, bumper stickers, tee-shirts, and other gift wear, preferably made with as many local inputs as possible). Ultimately, the SKy Market has found word-of-mouth to be the most effective form of advertising.

Surveyed market leaders throughout the state said that a budget for advertising and signage costs is essential to improving community visibility. Initially newspaper advertising was targeted heavily at the SKy Market, which is reflected in the customer survey (Figure 51). Television had a relatively low reach, quickly proving too expensive for limited market funds. Free media can be gained by market leaders. Market

representatives who build relationships with media personalities can “earn” media time by interviewing on radio shows, for example. For example, market representatives can partner with media sources in the community, particularly radio personalities, and help them create stories for the public about the myriad of benefits and personalities at the market. Interviews are more in depth and allow a fair window of exposure. Markets should strive to issue local press releases, another source of earned media. Cause for a press release can include community events such as hosting a musical performance, or partnership in national and statewide events such as Dairy Month, or Earth Day.



**Figure 51. Customer Responses to the Question, How Did You Learn about the SKY Regional Farmers' Market?**

Videos can now be easily made on a home computer using a point and shoot camera, and markets should capitalize on the free media available through YouTube. Video links can also be posted on ubiquitous social networking sites such as Facebook. Every effort should be made to find and retain a market volunteer or board member who can keep the Web site looking fresh, with regular updates to encourage multiple site visits. Web sites and press releases can and should include photographs as well.



### **Defining “Alternative” and “Farmers’ Market” in Kentucky**

The term “alternative food network” needs to be examined, particularly in the case of farmers’ markets, because definitions of “farmers’ markets” vary. Kentucky has a well distributed network of “farmers’ markets,” but 50% of market leaders surveyed allow produce to be “resold,” that is, purchased from a distributor – either a local auction house or a wholesaler in Georgia, for example, and then retailed at their markets. This issue came up often in interviews with farmers and market leaders. A farmers’ market – in most people’s minds and by definition – is a place where farmers sell their product directly to the consumer; it is a direct marketing technique that allows the farmer to add value to their product by eliminating the middle man. When markets allow the practice of “reselling,” it can be, at best, disingenuous. In the words of one farmer during interviews,

The general manager [at a competing market] years before told me that somebody asked, “Is what are you selling home grown?” and knowing that it wasn’t, he told the customer, “Yes” and came and justified his answer because “everything’s grown at somebody’s home.” I think you’re smart enough to know that, no, there’s a bunch of industrial farms out there that are not people’s homes. They’re industrial farms, and that’s where the vast majority of the produce comes from in the United States. That is so misleading, in my mind it goes beyond misleading, it’s an out-and-out lie, and I think it’s wrong....

Are markets really an alternative to the industrial food complex if they allow resale, especially if they do not require labeling to indicate where the food was grown? Clearly, in the minds of many Kentucky farmers, this practice undermines the development of consumer understanding of where their food is coming from, and compromises the ability of farmers to compete at markets. Supermarkets have allowed individuals to become disconnected with the source of their food, and many are naïve enough to not even think to question whether a cantaloupe in May in Kentucky would be grown by the farmer.

Consumers shop at farmers' markets for a number of reasons, and local food is just one of those reasons – for many consumers, not the primary one. If Kentucky wants to have a stronger alternative food network, it may need to consider placing some rules around how the term “farmers' market” is used by markets around the state.

## **State Policy Review**

### *Farmers' Markets and Kentucky Proud Branding*

Kentucky Proud has helped establish an understanding of, and interest in, local food in Kentucky, said Ms. Williams of the Project for Public Spaces. If the goal of the Governor's Office of Agricultural Policy and the Kentucky Department of Agriculture is to support Kentucky farmers through use of the Kentucky Proud brand and the development of farmers' markets, then they seriously need to consider defining the term farmers' market and holding markets accountable to that standard. Currently, the Kentucky Proud program certifies markets as Kentucky Proud without requiring that the markets limit sales to those that are grown by the producer, or by a Kentucky farmer. At a minimum, the program should limit use of the program by farmers' markets to those that are producer-only and who use inspections to insure accountability. Kentucky Proud markets have no accountability or requirement for selling Kentucky product, despite the fact that Kentucky Proud is supposed to represent Kentucky farmers. It is easy to see how a consumer shopping at a market flying the Kentucky Proud banner would assume that all product is local, especially if the consumer is not sophisticated enough to know what is in and out of season at a market. One farmer describes an experience with similar misuses of the “Pick Tennessee” branding initiative,

I just sold down at the Nashville Farmers' market, and under a sign – now this is June 5<sup>th</sup> – under a sign that says, “Home-Grown Fresh Produce” is a display under the big, I think it's called “Tennessee Pick” – that's their logo like Kentucky Proud – maybe it's Pick Tennessee, hand-painted sign, “homemade fresh produce.” On the far side, they had truckload plus – and by truckload I'm talking, I don't think it would have fit in a pick-up truck, it would have had to have been a bigger truck than that –they had bushel baskets of peaches, and I do not believe peaches are ripe yet in the state of Tennessee. After that came a display that included pineapple, bananas, kiwis, lemons, limes, and apples. The apples were not June apples. They were storage apples that, my guess, came out of New Zealand or perhaps Chile or Peru. Then, they had bushel baskets, literally thousands of pounds of tomatoes – every tomato perfect, every tomato looked just like the tomatoes you would find at a box grocery store, and I don't believe they came out of Tennessee. And then, they had the biggest cantaloupe I ever seen in my life and full-size watermelons, and I don't think they came out of Tennessee. I'm thinking, “What's wrong with this picture?” The only product I saw in their booth that I thought they probably raised themselves were cucumbers, but I'm thinking, “Well, when they didn't raise anything else, why would I think they even raised the cucumbers?” It lit me up.

The practice of resale at markets impacts farmers in many ways. It can reduce the premium that could otherwise be earned by farmers who practice season extension, because vendors are able to sell items raised in other climates. Produce purchased from a distributor is already graded, and customers are more likely to purchase and pay more for graded produce. Farmers are at additional disadvantage when competing against non-farmers because they face the additional time and energy constraints of harvesting, cleaning, and packing the produce. Therefore, evening the playing field for farmers at farmers' markets is essential. Taking this idea a little further, perhaps the term could be defined in legislation or regulation, and markets that are not producer only could be more accurately titled “produce markets.” This simple shift in language, while perhaps subtle, would convey more accurately what the market offers to the customer. It would not preclude farmers from selling there, and would not otherwise impact the market's

business other than perhaps beginning to make the consumer ask questions about where their food comes from – an important tool in beginning to educate our consumers about this issue. Signage could also be required at produce and farmers’ markets, labeling the county, state, or country point of origin. Putting point-of-origin labels on produce is a growing trend in supermarkets, so consumers are already growing to expect this information. This would preclude the step of making the customer think about where their food is coming from, and put the information in front of them to consider. The customer may then be more likely to choose to buy from a local farmer or a farmer reselling Kentucky product, over a product imported from out of state. A true alternative food network should be considered one which is an alternative to the industrial agricultural food complex. The Kentucky Department of Agriculture could help small-scale and market farmers by better protecting the use of the term “farmers’ markets.” Farmers have a hard time competing on a number of levels against those that resell produce at markets.

Rigorousness of the Kentucky Proud program, or lack thereof, was mentioned as problematic by market leaders and vendors in both surveys and interviews. The program, while an excellent marketing tool, lacks any verification process or policy in terms of farmers’ markets and resale.

### *Verification Systems*

Another key issue brought up by farmers was that verification is an essential piece of a producer-only market. In the words of one market leader, “since the consumer can’t make it to every farm and look for themselves, they need a trustworthy third party to verify that what’s being said is going on, is really going on.” Markets employ various

strategies to reinforce their policies. In some cases, market volunteers or board members share the responsibility of inspecting farms, and at other markets the market manager serves in that capacity. In the example of the SKy Regional Farmers' Market, farm inspections were originally conducted on a volunteer basis by members of the Board of Directors, and now they are conducted at the beginning of the season by a paid market manager. Farmers acknowledged that they didn't like it, but in today's world, verification is necessary. "Trust, but verify," was a phrase employed by market vendors.

### *Benefits of Producer-Only Markets*

Farmers indicated that participating in producer-only markets had benefited their business tremendously, one stating that gross sales had doubled and on some days tripled what the farm could make when selling at the other market in town that allowed resale. Farmers noted that the producer-only policy, as instituted in their markets, was driving other farmers to extend their seasons in order to compete better. Multiple farmers at the SKy market have purchased hoop houses and greenhouses in order to bring product to market earlier and later in the year. The Montgomery County market, a producer-only market, stays open from March to December. The SKy market is open from April through October. Producers also noted that a greater diversity of product was found at the market and attributed that diversity in part to farmers having to be more creative within the constraints of the rule. The SKy Market, and the Montgomery market, noted that most home staples could be purchased at the market. These staples included bread, eggs, meat, produce, flowers, preserved goods, and in the case of the SKy market, milk, cheese, coffee, and other household essentials including soaps, lotions, pots, compost, clothing, and wood-work. Both markets offer cooked food, another avenue that markets statewide

could expand upon. Both markets have above average sales for their urban class, highlighting the benefit of rules that require local product.

### *The Importance of Consumer Education and Cultural Shifts*

The importance of and need for consumer education and changes in consumer purchasing patterns and cooking habits was expressed by market leaders in the statewide survey, and by farmers in interviews. A barrier that farmers mentioned is the “ready-made” food culture that persists in modern society. One farmer stated that the biggest competition that farmers have at the market is the culture in which we live today. He said that he had just sold a chicken to a woman in her mid-thirties who was so excited because she had never cooked anything raw in her life. She had been on their ordering list for a long time and had never purchased anything but salad greens, because they don’t have to be cooked.

Processed, pre-baked food...Today it’s what American culture lives on, whether it be you go out to McDonald’s and you bring it home to your family or you go to Whole Foods and you buy a rotisserie pasture-raised chicken, it’s all pre-processed. It’s all done for you. You go home, and you lay it on the table because our lives are so busy, we no longer have time to prepare food. That, I think, is the biggest competition for farmers’ markets.

Infrastructure for cooking demonstrations and classes can reduce the formidability of learning to cook and trying new products. Access to a triple sink would enable vendors to offer samples, which could encourage individuals to try things that they might not otherwise purchase - especially unusual products such as yellow-fleshed watermelons. The state should focus on providing infrastructure to producer-only markets in key population centers and areas with strong markets. While the state currently provides funding for these kinds of projects, many markets do not have the

financial capacity to meet the match required. Many markets may also lack the resources in terms of human capital that it can take to orchestrate such a large scale venture. Many markets are run by volunteer boards composed of full time farmers. Some markets may lack technological capacity. The state can work to address this barrier by helping markets find community partners, providing funding for market managers, and lowering match requirements. The state, by conserving fiscal resources and only funding markets with specific policies that protect Kentucky farmers, may be in a better position to fund such infrastructure.

The Project for Public Spaces conducted a 2008-2009 study in the NuLu neighborhood of Louisville for the Jefferson Market. Rather than limiting the market to an indoor facility featuring local food and drink, as originally planned, the organization suggested that the developers consider the area as a market district, generating retail trade with strong anchors selling fresh foods and prepared foods in permanent retail spaces and farmers selling in open-air stalls. This strategy endorses a wholesale/retail produce distributor, which is contrary to the recommendations of this thesis due to the observation that the presence of wholesale prices drops the retail price for the farmer.

### **Public Market Examples – Extending the Reach, Presence, and Capacity of a Market**

Public market halls, which disappeared with the advent of the grocery store, are a logical extension of the seasonal farmers' market. While they can be expensive to operate, market halls have considerable infrastructure, and can offer local product year-round. They may be an avenue to restore the convenience of a grocery store, while offering the local goods found in a farmers' market.

### *Established Public Market Halls in Ohio*

Public market halls are a long standing tradition in Ohio, which has three public market halls of an estimated 100 in the country, according to Ms. Williams of the Project for Public Spaces. Kentucky could use the successful public market halls in Ohio as examples to build upon. Two of these markets as described below offer contrasting frameworks for potential development.

#### *North Market, Columbus*

The North Market in Columbus has operated continuously since 1876, but the non-profit North Market Development Authority and board of directors were developed 15 years ago, when they moved into the market's current location. Fundraising and a loan were necessary to transition the original, open air market into a market hall. The building is owned by the city and the non-profit rents it from them.

The North Market is in a renovated warehouse that serves as a business incubator for 35 vendors. Peggy Outcalt, Director of Operations for the market stated that the market has two primary components, an indoor market venue and an outdoor farmers' market. The market hosts 32 farmers for a producer-only outdoor market on Saturdays from April to November. The indoor market hall offers a year-round produce stand, which serves as an anchor for the daily operations of the market. This vendor gets as much product as possible from the state of Ohio. However, the business imports as needed to offer a full complement of product so that customers can find all produce that they need at the market without having to visit a grocery store. Also inside are four vendors selling manufactured products, such as cookware and dishes, and a general store and a bead shop. Every other vendor sells processed food, such as ready-to-eat meals of



all ethnic varieties, and take-home items including pasta and desserts.

When asked if the food stalls inside the market use local produce, Ms. Outcalt said that use of local product was not as high as she would like to see. Both price point and availability are perceived barriers. The North Market does not have any policies in place regarding use of local product in processed food but Ms. Outcalt estimated that roughly 20% of the products sold at the ready-to-eat food stands include Ohio-raised ingredients. She agreed with the suggestion that a processing facility where farmers or vendors could add value to local produce, and where they could store and distribute shelf-stable product, could help with year-round availability of local product for use in prepared-food market stalls.

This model of a temporal producer-only farmers' market combined with some anchor businesses could work well in many areas of Kentucky. In college towns, especially near college campuses, the temporal farmers' market could be tied into a food court system similar to that operated by the North Market.

Prepared foods tend to draw people in and keep them at the market for a while, and the longer customers stay, the more they buy, indicated Ms. Williams of the Project for Public Spaces. However, Ms. Williams cautioned that public markets should not become food courts, and emphasized the importance of keeping a balance between prepared and non-prepared food vendors. As an example, a market with 20 vendors might allow no more than 3 or 4 of them to offer prepared (fast) food. This keeps fresh food as the main market draw.

Price point does not have to be a barrier to the inclusion of locally grown ingredients in processed market foods. Markets can encourage or require that fast-food

vendors use at least a percentage of food from farmers at the market, or Kentucky Proud farmers. Ms. Williams noted,

Anybody can get a hotdog, anywhere, but if the hot dog is made from local beef and relish - now that is a unique product that creates market draw... Prepared food vendors profit well at these markets, and should have to pay more to participate and be held to a standard.

A strategy for developing the prepared food market is to rely on the cultural diversity of our communities, as according to Ms. Williams, “Immigrant communities are fantastic to tap for developing the prepared food market.” These vendors make authentic food and can attract the immigrant population to become market customers. Once represented in the vendor population, immigrants feel more comfortable coming to the market. The Project for Public Spaces has produced a vendor handbook to help markets attract ethnically diverse vendors, and recommended this approach as a key strategy to increase ethnic diversity in a customer base. Recruiting and retaining cultural diversity in the vendor base can help draw ethnic customers, who may also be low-income. This can be an important strategy for expanding market reach and building community. Adding minorities to the vendor base also increases value of the market as a tool for the upward mobility of minorities (PPS, 2003).

#### *West Side Market, Cleveland*

At the other end of the policy spectrum is the West Side Market in Cleveland. The West Side Market is an ethnic, old-world market. This public market is owned and operated by the city and is run by the market manager, a city employee. The market opened in 1912 in its current historic building location. The market made money for the city originally, but when the city started losing money on it in the 1980s, new leases were

written that defined the market as an “enterprise unit,” that is, required by the city to be self sustaining. The market budget, which operates on a razor thin margin, has a cushion to allow for a 5% vacancy rate at the market, said the market manager. When the market is at full occupancy, it makes a modest income, which is stored in the budget for leaner years. Generally, the market just manages to break even. Currently, the market is nearly 100% occupied. The only marketing done for the market hall, including the Web site, is conducted through the tenant’s association, which collects dues for some operations.

The venue has two halls – a main building and a vegetable arcade. The main building hosts vendors selling baked goods, meats, fish, cheeses, dairy, eggs, pasta, deserts, and other processed items. The arcade hall holds 181 produce stands. At this market, 90-95% of produce market vendors are reselling produce purchased from a large wholesale food terminal nearby.

In contrast to the North Market, this market strives to limit the amount of ready-to-eat meals that are sold, although they do have a few fast food vendors. In the words of the market manager, “The food court approach has led to the death of many public markets in this country.” The goal of operations at the West Side Market is to make the market a place for daily shopping.

In Kentucky, most cities would operate markets on a smaller scale than the West Side market. However, a scaled-down version of a traditional market hall could offer customers daily selections of locally produced dairy, meat, bread, and other value-added items. Such markets could include the general store model illustrated at the North Market, with an anchor store that resells Kentucky-grown or imported product if key vendors do not exist for the area. Statewide market leader surveys and interviews

demonstrated that most metropolitan and even micropolitan areas have access to Kentucky Proud meat, cheese, and dairy. A general store could stock these key items to supplement what producers bring to the market hall.

Currently, indoor farmers' markets in Kentucky are limited. These markets are often best described as a small country store featuring all local products. They tend to be found primarily in micropolitan areas, such as Bourbon and Anderson counties, where less population is available to support the market. The markets are limited in the amount of product that they offer, lacking the true one-stop-shop experience that appears to be necessary for true success and overall sustainability of such a venture. As micropolitan communities appear to be early adopters of the local food movement, the arrival of these mini- farmers' markets to their landscapes, may signal trends ahead for metropolitan and rural areas.

#### *New Market Halls and Strategies for Low-Cost Development*

Among others, a number of city governments and downtown redevelopment associations in Kentucky have been involved in the development of farmers' markets. While cities may not have the capacity to own and operate a market, they may be able to help with market hall development at the local level. This is especially true in communities seeking downtown revitalization, community space, and economic development.

The Kentucky Department of Agriculture could capitalize on this kind of potential partnership by developing a program that would help cities develop public market halls in key urban areas – as determined by the prevalence and success of farmers' markets in the area. Combining the best aspects of the North Market and the West Side Market could

allow them to serve as models that would facilitate expanded availability of locally grown and processed food. This could work particularly well if market halls include a certified kitchen for processing and adding value to produce or other base product, such as meat and cheese. These certified kitchens could serve as centers for food processing and thus adding value to locally grown product. Furthermore, food would be transformed and turned into kitchen staples that could be used year-round in restaurant or food stall-style venues. Because price-point can still be a barrier, the state should consider locating such a market in a relatively affluent area where customers are willing to pay the true cost of food.

Policy makers and market leaders interested in increasing the presence of farmers' markets in the physical landscape can use creative thinking and strategic partnerships to do so. Farmers' markets are temporal for a reason – farmers have significant time restraints – and leaders who seek to establish a more permanent space for markets should be realistic about labor or fiscal constraints that may impact the viability of operations. Keeping this in mind, an open-air market shed with a hand washing station might be the largest level of infrastructure that a market with a volunteer board of directors and no paid staff can realistically maintain. However, market leaders can forge strategic partnerships to extend the reach of the market beyond market days, or the market season.

Market leaders don't necessarily need to increase the size of the market or invest a lot of money in infrastructure; all that may be needed is a shift in strategy. For example, in Washington, Pennsylvania, a successful small town open air market was interested in expanding into a market hall, but could not afford the building that they wanted. Looking for other options, the market partnered with an adjacent florist, who joined the market to

sell shelf-stable product year-round from her shop. This arrangement increases the reach of many vendors at the farmers' market without requiring additional farmers' market staff or financial investment. The arrangement also benefits the florist, who now has a greater diversity of product to offer her customers. In addition, market leaders built a permanent market shed to increase market visibility and comfort. The structure also raises the perceived level of importance of the farmers' market in the community.

Community goals can and should influence market development. Many communities in Kentucky face failing downtown cores and local food insecurity. From rural to metropolitan areas, downtown areas are in need of economic revitalization, and local food access could be improved, despite the existing farmers' market network. However, each community will have a unique set of needs. Our communities will also have a unique blend of resources and constraints with which to meet those needs. In the Washington, Pennsylvania example, food access was already plentiful in the area. In this case, the community wished to drive economic development and increase active use of the downtown space. Thus, the market didn't need to be bigger – it just needed to operate differently. Community visioning can build capacity for market development, and both market leaders and policy makers can work together to develop optimal community solutions that can increase the strength and reach of any market, while being realistic about the level of funding and human resources available to operate a market.

Market leaders around the country and in Canada are finding creative ways to extend the market season by adopting vacant industrial buildings for use during the winter months. Vendors set up the market inside an essentially un-refurbished, structure. This is a great way to bring life to a space that would otherwise be sitting empty. Such

spaces already have in place key infrastructure that many vendors need, such as bathrooms for customers and vendors, electricity for freezers and refrigerators, and a roof and four walls to keep out winter weather. With minimal investment, a space like this could provide a triple sink so that vendors could offer samples, and a certified kitchen for cooking demonstrations and food processing. This approach can be more financially realistic for a market, potentially eliminating renovation costs and minimizing operating costs. The Old Strathcona Market in Edmonton, Canada is an old bus depot. The original garage doors have been transformed into glass for street visibility inside the market. The market invested a small amount of money in purchasing the garage doors and picnic tables for vendors and customers. When vendors share a space in this way, any costs are generally shared by the vendors who use the resources. Some markets have metered stands, in which case vendors pay for utilities individually, but another common model is for vendors to split the costs. For example, 50% of utilities might be paid by the market association from member fees, and the rest split by the vendors who use the infrastructure.

An example of a vacant building waiting to have some life breathed into it is 500 State Street, located in Circus Square Park in Bowling Green, Kentucky. This building provides a perfect setting for a small farmers' market hall. Situated in the redeveloping downtown core, a market hall in the historic 600 State Street block would increase food access and economic opportunity in an area that hosts a new minor league baseball park, and for which a large hotel and cultural center are planned. With some minor improvements and some fun patterns painted on the concrete floor, the building – an old mechanic's shop – would make an ideal candidate for low-tech redevelopment. At a

minimum, during winter months the building could provide shelter for vendors, who could conceivably operate with minimal investment.

The Commonwealth, in partnership with the universities, city governments, downtown redevelopment programs, and other stakeholders, could develop a network of public markets. Market halls in university towns would be well-supported by students and professors, according to Ms. Williams of the Project for Public Spaces. Therefore, they should be located in proximity to area universities. Kentucky has a network of environmental education centers at eight Kentucky universities that could serve as potential partners. Proposed cities could be: Murray, Bowling Green, Louisville, Lexington, Frankfort, Morehead, Covington, and Richmond, where these particular universities are. However, other universities, including Berea College in Madison County, would be natural partners for such a system based on farmers' market statistics and the strength of the school's sustainability program.

#### *Price Point Concerns in Low Income Areas*

Consumers' unwillingness to pay for the true cost of food, and producer reluctance to adequately charge for it, surfaced as an issue during interviews with farmers. Farmers stated that it is essential to charge customers enough to make their business financially sustainable. However, despite this recognition by many market vendors, other market farmers are reluctant to charge what it costs them to produce for the market, which can have the effect of driving down prices. Americans pay less for food on average than most people. In the U.S. between 1970 and 2005, the percentage of disposable income spent on all food fell from 13.9 to 9.8 percent (Clauson, 2008). Data also shows that households with smaller incomes spend a greater proportion of their



income on food, while households with larger incomes spend less money proportionally on it (Clauson, 2008). This statistic may explain why low income consumers are unwilling or unable to pay the higher price point often found at producer-only farmers markets. During interviews, farmers stated that minority and low-income people are usually interested in finding “cheap” food. Although greater inclusion of these populations could increase customer counts, recruiting those sectors of the community is not necessarily seen as advantageous by market vendors. This situation displays a tough quandary for markets. They have a limited customer base, but don’t want to recruit the consumer sector that is the most food insecure. This may point to a need for community leadership at the state or local level.

Farmers’ market leaders can help bridge the food desert gap by partnering with the Kentucky Department of Agriculture to increase the consumer’s ability to use electronic benefits transfer cards. The state can help markets facilitate this by offering grants to help markets pay for wireless service, phone lines, or defray other related expenses including staff time spent administering the program. State officials could better educate market coordinators about the program and how the program currently operating, as various conversations with market coordinators indicated levels of confusion about the benefit program. For example, one market coordinator said that the program was a “breeze to administer ever since it changed about two years ago,” and was now handled almost entirely by the vendors, who could simply deposit their vouchers in at the bank directly. Another market coordinator said that in his estimate the program would add hours of paperwork weekly and increase market checking account activity and thus fees on the market’s checking account, to the point of creating a logistical nightmare for a

market with an all-volunteer board and part-time market manager. The state can work to streamline processes and effectively communicate with market leaders when such streamlining processes are in place. The state can also strive to help markets obtain the infrastructure needed to access electricity to power electronic debit transactions. As one farmer said, “making it easier to pay is a good way to attract a bigger base of customers.”

According to a food policy document for the city of Louisville called, “The State of Food,” which emerged out of the Mayors’ Healthy Home Town Initiative – an initiative involving a national collaboration of mayors – forty markets accept WIC coupons statewide. This is a good start to improving food accessibility for Kentucky’s food-poor, but the Department of Agriculture and market leaders from around the state should collaborate to find means for all markets in the Commonwealth to participate in the program.

Strategies aimed at increasing community food security include gleaning programs for markets. Gleaning is the practice of gathering together farmer’s left over produce and distributing it to others in the community who are in need.

Market mission statements often describe a goal of serving the community and providing local food security (Pyle 1971), which can’t be measured by price point. However, farmers’ market boards of directors made up entirely of vendors are likely to initiate strategies that put their needs ahead of those in the urban community. Market boards of directors may thus best serve the community when they are comprised of both farmers and consumers. Each group brings a unique perspective to the table, and tend to make decisions that reflect the needs of both farmers and consumers.

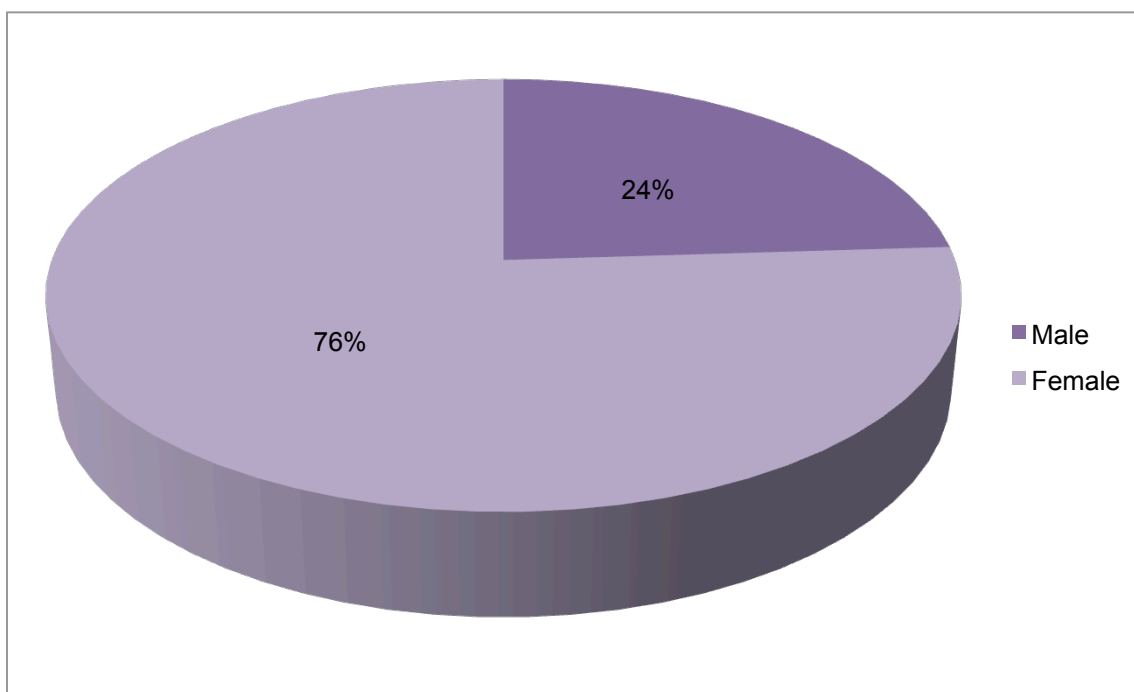
### *Customer Demographics*

A survey taken at the Southern Kentucky Regional Farmers' Market indicated that 76% of the customers at the market were women and the remaining 24% were men (Figure 52). Figure 53 shows the customer base in terms of age. Half of the customer population was between the age of forty and sixty. Surveyed market leaders around the state noted that their customer base was primarily women, families, and senior citizens. Vendors at the SKy market, and in the statewide survey leaders at other markets, noticed a small ethnic presence in their customer base.

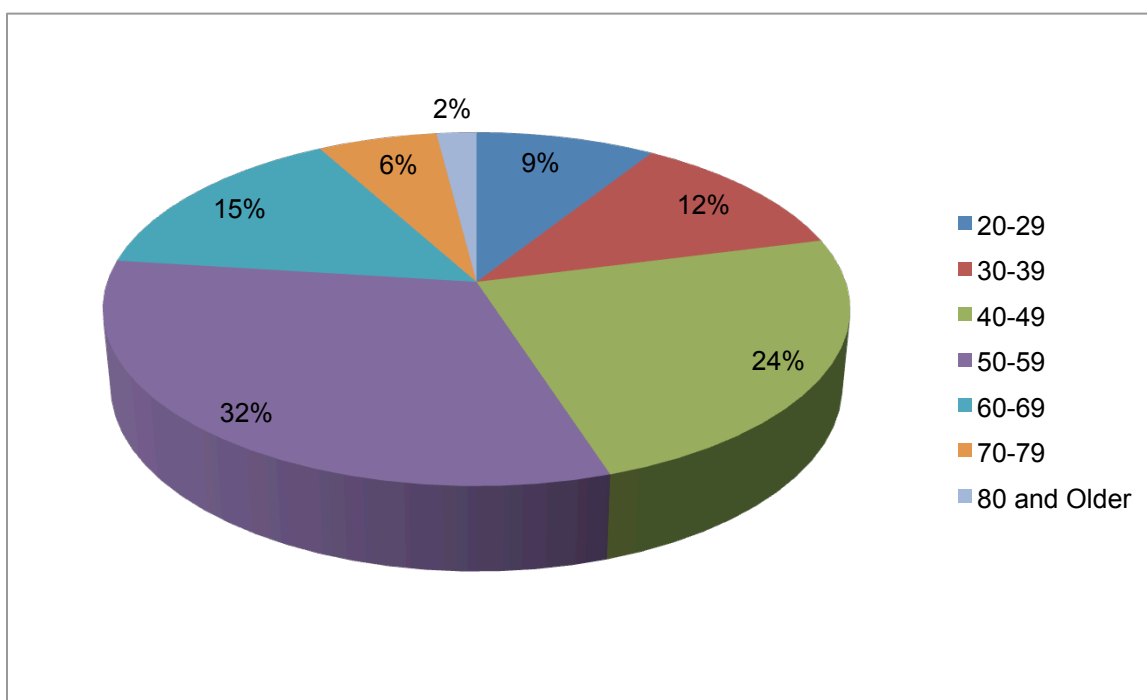
### **Future Work**

Why does the variable of vendor strength appear to not be statistically different across urban categories, while gross sales and age do? While it may be that market leaders tend to self limit vendor numbers at markets in order to control competition, future research could look in more depth at market vendor numbers and the factors influencing them. Are all markets operating under similar constraints in terms of the number of vendors a market can realistically support? Perhaps lack of reporting on the variables of gross sales and age has impacted the robustness of this analysis and more in depth coverage of the variables, particularly in the case of gross sales, would lead to different results. Focus groups with market leaders may yield a better understanding of the apparent stability in the number of vendors at a market, regardless of urban class.

While it is beyond the scope of this study, it would be interesting to assess the impact of local branding in Kentucky, by conducting a two-sample difference of means test. This test could compare markets of a similar size that allow the practice of reselling to those markets that do not allow it, in terms of the annual gross sales of the market – is



**Figure 52. Gender Composition at the SKy Market**



**Figure 53. Customer Age Range at the SKy Market**

there a significant difference between the two that might indicate consumer preference, or higher retail prices?

Future work could also consider, perhaps through consumer focus groups, what strategies markets can best employ to further expand their customer base and thus the reach of local food in the Commonwealth, or in other areas.

## **Chapter 5: Conclusion**

### **Spatial Distribution of Farmers' Markets in Kentucky**

Geospatial analysis indicates that farmers' markets are more concentrated in highly populated areas of the Commonwealth. While farmers' markets are overall well dispersed, a local food desert appears to exist in Eastern Kentucky, where the population is sparse. Areas with smaller populations seem to have less access to local food, reflected by the fact that only 50% of rural counties have their own farmers' market. Kentucky's counties are small – the county seat is one day's horse ride from the next – so residents can easily travel to markets for food, given a vehicle. Nonetheless, vehicle access was described as a barrier to food security in Louisville by Bramer (2010). Since urban areas are generally more accessible to pedestrians than rural areas, it is likely that transit is a challenge for residents in rural areas as well – particularly for the elderly who may have trouble driving, the rural poor who may lack their own vehicle, or those who have lost their driver's license.

Farmers' markets have some clear similarities and differences when examined by urban class. Markets across urban classes have significantly different ages and gross sales, but all markets tend to sustain a similar number of vendors. Market leaders indicated that they may cap market vendor levels to reduce internal market competition, which could explain this similarity across the three urban classes. Many markets, especially in metropolitan areas of Kentucky, are newly established and thus may not have reached their optimum vendor levels, so a significant difference might be found between the populations if this topic were revisited in another 20 years or so.

Statistical analysis reveals that farmers' markets have been established longer in micropolitan areas of the state, which implies that they are most embedded in

micropolitan culture. This may in part stem from a loss of original markets in metropolitan areas due to urban decay. However, since micropolitan areas have the longest running markets in the state, they should be considered leaders in the development of sustainable local food networks. These communities might be considered bell-weather communities that could indicate coming trends. The development of indoor farmers' market infrastructure in micropolitan towns may indicate future growth of such infrastructure in metropolitan and rural areas. Small urban areas can generally be more nimble in terms of policy development and may thus serve as ideal locations for pilot projects. Micropolitan and smaller metropolitan areas may have the best chance of creating a public market scene in Kentucky because the community is more walkable; downtowns are compact and provide a perfect staging area for farmers' markets.

The fact that market gross sales tend to increase with median household income suggests that if the state wishes to support farmers by providing support for farmers' markets, state dollars may have the greatest impact in areas with higher income levels. The apparent relationship between educational achievement levels and farmers' market strength highlights how important education levels are in the development of strong alternative food networks.

### **Primary Factors Influencing the Growth of Farmers' Markets in Kentucky**

A number of factors have influenced the rise of farmers' markets in Kentucky. In particular, state funding for markets, consumer response to food safety and carbon footprint concerns, and local education and median household income levels appear to play significant roles in market development and continuity. The funding of farmers'

markets by the Governor's Office of Agricultural Policy has clearly influenced the strong growth of farmers' markets in the last decade. Market stakeholders believe that markets are gaining popularity as consumers become more aware of food safety and environmental problems in the globalized, mass-market distribution system through which most food must pass. Education appears to be an important factor in the development of personal values that lead to the presence of farmers' markets in the landscape. The percentage of county residents with a Bachelor's degree is roughly commensurate with gross market sales. Market sales also appear to be stronger in counties with a larger median household income. In addition to desiring high quality food, farmers and urban dwellers alike come to their markets for the sense of community that exists there.

### **Consumer and Producer Response to Globalization**

The incredible growth in farmers' markets in Kentucky is indicative of the groundswell of demand for local, fresh, safe, quality, nutritious food that has been evident in media and research in recent years. As indicated by market leaders in the statewide survey, farmers' markets are an important tool for strengthening the local economy, connecting farmers with consumers, and increasing the local availability of fresh and nutritious foods.

Environmental concerns were cited by customers or vendors as reasons for frequenting farmers' markets, although this response was not mentioned as often as health and community concerns were. While some consumers appear to wish for local produce as a means to reduce their carbon footprint, the relatively limited customer reach of these markets suggests that the environmental benefit of reduced transport is small.



However, with increased customer counts, the environmental benefits of farmers' markets would have a larger impact.

### **Presence of an Alternative Food Network**

This study has attempted to determine the prevalence of an alternative food network in Kentucky, using farmers' markets as a benchmark indicator of alternatives to mainstream grocery stores and food commodities. Kentucky has a fairly even distribution of farmers' markets in the landscape, with an average of one market per county. Kentucky consumers and farmers are responding to new awareness about local food, but on average the Kentucky consumer may only get a small percentage of their daily diet from Kentucky products. Additional components of alternative food networks are present in the marketscape, including roadside stands and community supported agriculture subscriptions.

In addition to a strong network of farmers' markets, Kentucky has a number of Community Supported Agriculture systems, community gardens, and roadside stands that contribute to local food availability and distribution. Many farmers use restaurants, grocery stores, auction houses and distribution centers as outlets for their product. A number of farmers participate in the Kentucky Proud marketing program, which has successfully raised consumer awareness of locally grown food. Determining the prevalence and distribution of these alternative outlets is a recommended avenue for future study. Some of this work has been undertaken by the University of Kentucky, which recently completed a survey of Community Supported Agriculture Producers that focuses on business and marketing practices among 205 CSA producers in nine states (Woods *et al.* 2009).

In Louisville, in 2007, farmers' markets comprised 1.6% of produce sales (Bramer, 2010). Consumer demand for fresh produce in Louisville is expected to expand from \$131 million annually in 2007 to \$157 million in 2012 (Bramer, 2010), but the challenge ahead is to get a larger percentage of the population to procure fresh produce from farmers' markets rather than from non-local sources. The Louisville numbers are slightly higher than customer counts at the SKy market, which have shown that one percent of the city population frequents the market on any given day. The SKy Market customer counts mirror the national average of one percent of the population patronizing farmers' markets, as noted by Kelly Williams, Senior Associate with the Project for Public Spaces.

At farmers' markets in Bowling Green, Mt. Sterling, and Boone County, among others, consumers have access to locally produced goods because of the conscious enforcement of producer-only policies. These markets rose to the top of the analysis and clearly serve as strong models from the state. They are located in different parts of the state – Northern Kentucky, South Central Kentucky, and the Bluegrass Region of Kentucky. They also all have different population bases. The Kentucky Agricultural Development Fund Board of Directors has helped many farmers and markets diversify and become established as a result of their management of the funds. However, the Governor's Office of Agricultural Policy may wish to consider tightening use of the Kentucky Proud logo at farmers' markets and instituting or at a minimum encouraging the adoption of market rules that prohibit the practice of resale at markets branded with the Kentucky Proud logo.

Kentucky farmers' historical reliance on tobacco, traditionally a small farm, labor

intensive and subsidized crop, and the Commonwealth's use of tobacco settlement dollars have both impacted farmers' transition to market farming. Intensive market farming in many ways parallels tobacco farming, and much of the equipment used for tobacco farming has been used by farmers transitioning away from tobacco production, for vegetable production. Furthermore, Kentucky has used tobacco settlement dollars in a way that meets many farmers' and consumers' needs. The benefit of that investment is evident in the statewide participation of nearly 1800 individuals as farmers' market growers and vendors. Kentucky has used foresight in helping to establish farmers' markets in an economy with agrarian roots. Farmers' markets in Kentucky have increased in part due to farmers looking for alternatives to tobacco farming, and support from the state to help them transition.

The success of farmers' markets is evident in their exponential growth in the Commonwealth. The small percentage of the population utilizing farmers' markets indicates that farmers' markets cannot be the only means used to distribute local food, but the markets' dedicated customers and emergent culture highlight the importance of farmers' markets to the development of an alternative food network. As indicated by market leaders statewide and local farmers, farmers' markets are an important avenue for strengthening the local economy, connecting farmers with consumers, and increasing the local availability of fresh and nutritious foods.

**Appendix A Southern Kentucky Regional Farmers Market Bylaws**

BYLAWS OF

SOUTHERN KENTUCKY REGIONAL FARMERS' MARKET

TABLE OF CONTENTS

ARTICLE I. NAME AND OFFICES

Section 1. Name

Section 2. Office

Section 3. Other Offices

ARTICLE II. PURPOSES

ARTICLE III. MEMBERSHIP

Section 1. Membership Categories

a. Producer Member

b. Affiliate Member

c. Associate Member

Section 2. Approval of Membership Application

Section 3. Licensing of Intangible Property

Section 4. Termination of Membership

Section 5. Reinstatement

#### ARTICLE IV. MEMBERSHIP MEETINGS AND VOTING

Section 1. Annual Meeting

Section 2. Meetings

Section 3. Notices of Meetings

Section 4. Voting Rights Limited to Producer Members

#### ARTICLE V. BOARD OF DIRECTORS

Section 1. Duties and Authority

Section 2. Composition of Board; Election and Appointment

Section 3. Vacancies

Section 4. Nominating Committee

Section 5. Removal of Directors

Section 6. Volunteers

Section 7. Indemnification

#### ARTICLE VI. DUES

Section 1. Establishment

Section 2. Delinquency in Payment

Section 3. No Refund of Dues

#### ARTICLE VII. OFFICERS OF THE CORPORATION

Section 1. Officers

Section 2. President

Section 3. Vice-Presidents

Section 4. Secretary

Section 5. Treasurer

#### ARTICLE VIII. DISSOLUTION

#### ARTICLE IX. AMENDMENTS TO BYLAWS

#### ARTICLE X. GENERAL PROVISIONS

Section 1. Corporate Seal

Section 2. Gender

Section 3. Captions

#### ARTICLE I

#### NAME AND OFFICE

Section 1. Name. The name of this corporation is Southern Kentucky Regional Farmers' Market, a nonprofit corporation organized under the laws of the Commonwealth of Kentucky ("Corporation").

Section 2. Office. The principal office of the Corporation shall be located at 794 C.W. Moore Road Smiths Grove, Kentucky 42171.

Section 3. Other Offices. The Corporation may have offices at such other place or places as the Board of Directors ("Board") may from time to time appoint or as the affairs of the Corporation may require to make desirable.

## ARTICLE II

### PURPOSES

The purposes of the Corporation are as follows:

1. To provide Kentucky growers and craftsmen with an outlet for the sale of freshly-picked produce and related agricultural and horticultural products and crafts.
2. To foster an appreciation for Kentucky's rural resources.
3. To develop sources of marketing, management, and agricultural information for its members.
4. To operate a producer-only farmers' market where the re-selling of any item is strictly prohibited.
5. To encourage growth of the local/regional food supply by promoting closer ties between local producers and consumers.

## ARTICLE III

### MEMBERSHIP

Section 1. Membership Categories. The membership of the Corporation shall consist of individuals, firms and corporations who are Kentucky residents in accordance with the following classifications:

a. Producer Member. “Producer Members” shall be limited to Kentucky agriculture/horticulture/crafts producers. Only a Producer Member shall have and/or exercise the right to vote as a member. Producer membership shall be limited to one membership per farm, horticultural, or craft enterprise. References in these Bylaws to voting or voting members shall be construed as being limited in application to Producer Members.

b. Affiliate Member. “Affiliate Member” shall be limited to firms and organizations interested in the Corporation’s purposes and activities, such as trade associations, colleges and universities, and professional organizations which are sympathetic to and interested in supporting the purposes and activities of the Corporation.

d. Associate Member. “Associate Member” shall consist of individuals who support the goals, purposes and activities of the Corporation.

Section 2. Approval of Membership Application. The Board shall have the sole right to recognize and confer membership in the Corporation upon any person, firm or



corporation desiring to become a member of the Corporation. The Board shall determine the proper membership classification for any such applicant.

Section 3. Licensing Intangible Property. Members shall have the right to license from the Corporation the use of products, trade names, trademarks, logos, documentation and other business related proprietary information for the purpose of increasing the use of producer-made agricultural/horticultural/craft products. Any such member seeking any such license shall execute an appropriate licensing agreement with the Corporation. Any such licensing agreement executed with the Corporation shall take into account any contractual obligations that the Corporation itself may have with respect to the licensed item.

Section 4. Termination of Membership. The Board may by majority vote to terminate the membership of any member upon violation of these Bylaws or for such other cause as the Board may deem deleterious to the Corporation's reputation or financial condition or for violation of law. Prior to termination of membership, the member shall be given notice and a reasonable opportunity to be heard. The action of the Board thereon shall be final.

Section 5. Reinstatement. A former member desiring to be reinstated must reapply for membership in the proper membership classification.

#### ARTICLE IV

#### MEMBERSHIP MEETINGS AND VOTING

Section 1. Annual Meeting. The annual meeting of the Corporation shall be held on the third Sunday in February or at such other dates as may be determined by the Board upon 30 days notice for the election of directors as set forth herein, and the conduct of any further business that the Board deems appropriate.

Section 2. Meetings. Other meetings of the Board and the membership may be held upon notice by the Board. Robert's Rules of Order shall govern all meetings.

Section 3. Notices of Meetings. Written notice by electronic or postal means of any meeting of the Corporation at which Corporation business is to be transacted shall be transmitted to the last known electronic or postal address of each member not less than 10 days prior to the date of the meeting.

Section 4. Voting rights Limited to Producer Members. At all annual and other meetings of the membership of the Corporation, each Producer Member shall be entitled to one (1) vote and shall designate a representative who will exercise its voting rights hereunder. A quorum shall consist of twenty-five percent (25%) of Producer Members in good standing, and voting shall constitute the vote of the membership of the Corporation.

## ARTICLE V

### BOARD OF DIRECTORS

Section 1. Duties and Authority. The affairs of the Corporation shall be managed by the Board. The Board may exercise all the powers of the Corporation subject to any restrictions imposed by law, the Articles of Incorporation or these Bylaws. The Board shall appoint such committees as may be necessary to further the business of

the Corporation, including an executive committee for such exigencies as may require immediate action.

Section 2. Composition of Board; Election and Appointment. The Board shall consist of not more than eleven members. In no event shall the board of directors ever be composed of less than a simple majority of agriculture/horticulture producers. Only one designate of any household, farm, horticulture, or craft enterprise may serve on the Board at any time. Board members shall be elected by a majority vote of the Producer Members of the Corporation who are current in the payment of their yearly membership dues at the annual meeting of members upon nomination and second. Directors may serve an unlimited number of terms. The initial terms will be on a staggered basis using a 1/2/3 annual rotation, and shall be for three year terms thereafter. The immediate past President of the Corporation shall serve as an ex officio non-voting member of the Board as well.

Section 3. Vacancies. Any vacancy which occurs among the directors shall be filled by appointment by the remaining members of the Board to serve the unexpired term of his predecessor or until an election is held by the Corporate Members as set forth in Article V.

Section 4. Meetings of Board. Meetings of the Board shall be held at such times and places as designated by the President of the Corporation or by a majority of the members of the Board then in office. At all meetings, the presence of a majority of the members of the Board then in office shall be necessary to constitute a quorum for the transaction of business. The act of the majority of the members of the Board present at a meeting at which a quorum is present at the time shall be the act of the Board. Any

action required or permitted to be taken at any meeting of the Board may be taken without a meeting if a written consent thereto shall be signed by all members of the Board. Such consent shall have the same force and effect as a unanimous vote of the Board.

Section 5. Removal of Directors. The Corporate Membership may remove any director for cause by an affirmative two-thirds (2/3) vote of the Corporate Membership present at any regular or special meeting of the Corporate Membership.

Section 6. Volunteers. Directors shall not receive any compensation for services but shall be eligible to receive reimbursement for any expenses that they may incur in the performance of their duties and obligations as a member of the Board, under policies adopted by the Board for such purpose from time to time.

Section 7. Indemnification. The Corporation shall indemnify any director or former director of the Corporation or any other person who may have served at its request as a director of another corporation, partnership, joint venture, trust or other enterprise against liabilities and reasonable litigation expenses, including attorneys' fees, incurred by him in connection with any action, suit or proceeding in which he is made or threatened to be made a party by reason of having been such director, except in relation to matters as to which he shall be adjudged to have acted in bad faith or to have been liable or guilty by reason of willful misconduct in the performance of duty. The intent of this Bylaw is to permit the full range of indemnification authorized under law. The Corporation shall also be authorized to purchase and maintain insurance for the protection of directors.

## ARTICLE VI

### DUES

Section 1. Establishment. The Board shall establish dues for all classes of membership. Dues shall not be pro-rated. Dues shall be for the fiscal year January 1 thru December 31.

Section 2. Delinquency in Payment. Any member of the Corporation who is delinquent in payment shall be notified by certified mail of the delinquency and suspended from the receipt of further services from the Corporation. If payment is not then made within the next succeeding thirty (30) days, the delinquent member shall be dropped from the membership roll and shall thereupon forfeit all rights and privileges of membership, unless such suspension is waived by action of the Board.

Section 3. No Refund of Dues. No dues shall be refunded to any member whose membership terminates for any reason.

## ARTICLE VII

### OFFICERS OF THE CORPORATION

Section 1. Officers. The officers of the Corporation shall consist of a President, a Vice-President, a Secretary, a Treasurer and such other officers or assistant officers as deemed necessary by the Board. All officers of the Corporation shall be elected by the Board. Officers of the Corporation shall be selected from the membership of the Board. Each officer of the Corporation shall hold office at the will of the Board. Any two (2) or more offices may be held by the same person, except that the same person shall not be

both President and Secretary. Any officer may be removed at any time by the Board, with or without cause therefor. The President, Vice-President and Treasurer shall serve one (1) year terms, and may succeed themselves in the same office.

Section 2. President. The President shall have general supervision and direction of the day-to-day affairs of the Corporation. The President shall preside over all meetings of the Board.

Section 3. Vice-Presidents. There shall be elected one or more Vice-Presidents who shall perform the duties and exercise such powers as the Board may prescribe. Such Vice-Presidents, in order of their seniority in office, further shall perform the duties and exercise the power of the President during the absence or disability of the President. In the event of the vacancy of the office of President for any reason, the Vice-President with greatest seniority shall thereupon assume the office of President to complete the unexpired term thereof.

Section 4. Secretary. The Secretary shall attend all meetings of the Board and shall keep and preserve in the books of the Corporation true minutes of the proceedings of all such meetings. The Secretary further shall give all notices required or appropriate pursuant to these Bylaws, any resolution of the Board or applicable law. The Secretary also shall have charge of the books, records, and papers of the Corporation and shall be responsible that all reports, statements and other documents are properly maintained or filed with appropriate authorities as required by law, except as provided in this Article VII, Section 5, or as otherwise determined by the Board.

Section 5. Treasurer. The Treasurer shall have custody of all assets of the Corporation and shall keep full and accurate accounts of all membership dues, fees, and revenues paid to the Corporation and all expenditures made by the Corporation. The Treasurer shall maintain the bank accounts on behalf of the Corporation with such depositories as may be designated by the Board and shall timely deposit all revenues received by the Corporation in such accounts. The Treasurer shall disburse funds of the Corporation at the direction of the Board and shall require proper vouchers for such disbursements. Expenditures in excess of \$500 shall require the signature of the Treasurer and one (1) additional signature of one or more persons authorized by the Board to approve disbursements in excess of \$500. The Treasurer shall render to the Board at meetings of the Board, and whenever requested by the Board, an account of the financial condition of the Corporation. The Treasurer shall carry out the foregoing duties and responsibilities in accordance with, and shall have such further duties and responsibilities prescribed by, any applicable laws, as amended from time to time and the regulations thereunder.

## ARTICLE VIII

### DISSOLUTION

Upon the dissolution of the Corporation at any time, following the payment of all outstanding obligations of the Corporation, the Board may distribute the unexpended balance of funds or other assets, less an appropriate amount for unknown or contingent claims or liabilities, to an organization which at that time is organized and operated exclusively to further charitable, educational, scientific or religious purposes and which

at that time qualifies as an organization exempt from federal income taxation under §501(c) of the Internal Revenue Code of 1986, as amended (“Code”), or any successor provision thereof. Any assets not so distributed shall be distributed by a court of appropriate jurisdiction located in the county in which the Corporation’s principal office is located at such time.

## ARTICLE IX

### AMENDMENTS TO BYLAWS

These Bylaws may be amended, altered, or repealed by a three-fourths majority vote of a quorum of the membership. Notwithstanding the foregoing, prior to the effective date of such alteration, amendment, or repeal, the Secretary shall by electronic or postal means mail to each Corporate Member a copy of any such proposed alteration, amendment, or repeal at least thirty (30) days prior to any scheduled regular or special meeting of members.

## ARTICLE X

### GENERAL PROVISIONS

Section 1. Corporate Seal. The corporate seal of the Corporation shall consist of two (2) concentric circles within which is included the word “SEAL” and the name of the Corporation.

Section 2. Gender. Throughout these Bylaws, wherever the context may permit, the masculine gender shall be deemed to include the feminine, the singular tense shall



include the plural and the neuter gender shall be deemed to include both the masculine and the feminine genders.

Section 3. Captions. The captions contained herein are for the convenience of the reader only and shall not be deemed to either limit or expand the meaning of these Bylaws and shall not be deemed to have any legal effect.

I hereby certify that the foregoing Bylaws were duly adopted by the Board of the Corporation as of the \_\_\_\_\_ day of \_\_\_\_\_, 2003.

**Appendix B: Kentucky Farmers' Markets**

*Listed Alphabetically by Metropolitan/Micropolitan Statistical Area and by Rural County*

<b>Kentucky Metropolitan Farmers' Markets</b>		
<b>Metropolitan Statistical Area</b>	<b>County</b>	<b>Market</b>
Bowling Green, KY	Edmonson	Edmonson County Farmers' Market
	Warren	Bowling Green Farmers' Market
		Southern Ky Regional Farmers' Market
Cincinnati-Middletown, OH-KY-IN	Boone	Boone County Farmers Market
	Bracken	Bracken County Farmers Market
	Campbell	Campbell County Farmers' Market
	<i>Gallatin</i>	<i>No Market</i>
	Grant	Family Roadside Farmers Market
		Grant County Farmers Market
		Williamstown Main Street Market
	Kenton	Dixie Farmers' Market
		Northern Ky Regional Farmers' Market
		Simon Kenton Farmers Market
	Pendleton	Pendleton County Farmers' Market
Clarksville, TN-KY	Christian	Bradford Square Farmers' Market
	Trigg	Christian Co/Hopkinsville Farmers' Market
Elizabethtown, KY	Hardin	Hardin County Farmers' Market
	Larue	Vine Grove Farmers Market

Evansville, IN-KY	Henderson	Henderson Farmers' Market
	<i>Webster</i>	<i>No Market</i>
Huntington-Ashland, WV-KY-OH	Boyd	Boyd County Farmers Market
	Greenup	Greenup County Farmers Market
Lexington-Fayette, KY	Bourbon	Paris Bourbon County Farmers Market
	Clark	Winchester/Clark County Farmers' Market
	Fayette	Bluegrass Farmers' Market
		Kentucky Proud Nights Farmers Market
		Lexington Farmers' Market
	Jessamine	Jessamine County Farmers' Market
	Scott	Scott County Farmers' Market
	Woodford	Woodford County Farmers' Market
Louisville, KY-IN	Bullitt	Bullitt County Farmers' Market
	Henry	Henry County Farmers Market
	Jefferson	18th Street Farmers' Market
		Amerigo Farmers' Market
		Bardstown Road Farmers' Market
		Beechmont Open Air Market
		Heart of St. Matthews Farmers' Market
		Jeffersontown Farmers' Market
		Middletown Farmers Market
		Norton Commons Farmers Market
		Old Louisville Farm Works Market

		Phoenix Hill Farmers Market
		Rainbow Blossom Farmers' Market
		Rowan Street Farmers Market
		Russell Neighborhood Farmers' Market
		Smoketown/Shelby Park Farmers' Market
		Southwest Farmers' Market
		Suburban Christian Church Farmers Market
		Urban Fresh Market at Spalding University
		Victory Park Farmers' Market
	Meade	Meade County Farmers' Market
	Nelson	Bardstown Farmers' Market
	Oldham	Peewee Valley Farmers Market
		The LaGrange Farmers' Market and Artisans
	Shelby	Shelby County Farmers Market
	Spencer	Taylorsville Farmers Market
	<i>Trimble</i>	<i>No Market</i>
Owensboro, KY	Daviess	Owensboro Regional Farmers Market
	Hancock	Hancock Co Farmers' Market
	McLean	Livermore Farmers Market

<b>Kentucky Micropolitan Farmers' Markets</b>		
<b>Micropolitan Statistical Area</b>	<b>County</b>	<b>Market</b>
Frankfort, KY	Anderson	Anderson County Farmers' Market
	Franklin	Franklin County Farmers' Market
Glasgow, KY	Barren	Cave City Regional FM
	Metcalf	Metcalf County Farmers Market
London, KY	Laurel	London-Laurel Co Farmers' Market
Madisonville, KY	Hopkins	Dawson Springs Main Street Farmers Market
		Hopkins County Farmers' Market
<i>Mayfield, KY</i>	<i>Graves</i>	<i>No Market</i>
Maysville, KY	Lewis	Lewis County Farmers' Market
	<i>Mason</i>	<i>No Market</i>
Middlesborough, KY	Bell	Middlesboro Farmers' Market
Mt. Sterling, KY	Bath	Bath County Farmers Market
	Menifee	Menifee County Farmers Market
	Montgomery	Montgomery County Farmers Market
Murray, KY	Calloway	Downtown Saturday Market
Paducah, KY-IL	Ballard	La Center Community Farmers' Market
	<i>Livingston</i>	<i>No Market</i>
	McCracken	Paducah's Downtown Farmers' Market
Richmond, KY	Madison	Berea Farmers' Market
		Madison County Farmers Market

	Rockcastle	Rockcastle Farmers' Market
Somerset, KY	Pulaski	Pulaski County Growers Association
		Somerset Farmers Market
Union City, TN-KY	Fulton	Fulton County Farmers Market

Rural Farmers' Markets – Non-CBSA	
Market	County
Allen County Farmers' Market	Allen
Breckinridge County Farmers Market	Breckinridge
Caldwell County Farmers' Market	Caldwell
Riverview Farmers Market	Carroll
Carter County Farmers' Market	Carter
Marion Farmers Market	Crittenden
Elliott County Farmers Market	Elliott
Estill County Farmers' Market	Estill
Fleming County Farmers' Market	Fleming
Mandolin Farm Farmers Market	Fleming
Floyd County Farmers' Market	Floyd
Grayson Co Farmers Market	Grayson
Harrison County Farmers' Market	Harrison
Hart county Farmers' Market	Hart
Jackson County Farmers Market	Jackson
Lawrence County Farmers Market	Lawrence
Mountain Farmers' Market	Lee

Logan County Farmers Market	Logan
Lyon County Farmers' Market	Lyon
Martin County Farmers Market	Martin
Mercer County Farmers Market	Mercer
Monroe County Farmers' Market	Monroe
Morgan County Farmers Market	Morgan
Nicholas County Farmers' Market	Nicholas
Owen County Farmers Market	Owen
Hazard/Perry Co Farmers' Market	Perry
Powell County Farmers' Market	Powell
Rowan County Farmers' Market	Rowan
Russell County Farmers Market	Russell
Country Fresh Farmers Market	Union
Farmers Market at the Depot	Washington
Wayne County Farmers Market	Wayne
Wolfe County Farmers Market	Wolfe

**Appendix C: Governor's Office of Agricultural Development Fund Projects -  
Farmers' Markets (2001-2009)**

*Listed Alphabetically by County*

<b>County</b>	<b>Recipient</b>	<b>Amount</b>	<b>Year</b>	<b>Summary</b>
Anderson	Anderson County Fiscal Court	\$55,000.00	<b>2002</b>	Farmers' Market Facility
Anderson	Anderson County Fiscal Court	\$14,000.00	<b>2003</b>	Farmers' Market Development
Anderson	Anderson County Farmers' Market, Inc.	\$10,000.00	<b>2005</b>	Farmers' Market Facility Enhancement
Ballard	Let's Beautify La Center Inc.	\$25,000.00	<b>2007</b>	Farmers' Market Award: Facility
Bath	Bath County Agricultural Extension Foundation	\$50,000.00	<b>2009</b>	Farmers' Market Facility
Bourbon	Bourbon County Fiscal Court	\$114,000.00	<b>2007</b>	Farmers' Market Award: Facility
Bullitt	Bullitt County Chamber of Commerce	\$5,060.00	<b>2004</b>	Farmers' Market Development
Bullitt	Bullitt County Conservation District	\$10,000.00	<b>2005</b>	Farmers' Market Facility
Butler	City of Morgantown	\$55,000.00	<b>2007</b>	Farmers' Market Facility
Calloway	Jackson Purchase Resource Conservation and Development Foundation, Inc.	\$33,000.00	<b>2007</b>	Farmers' Market Award: Permanent Facility
Calloway	Jackson Purchase Resource Conservation and Development Foundation, Inc.	\$15,685.00	<b>2008</b>	Farmers' Market Award: Facility Enhancement
Carlisle	Carlisle County Fiscal Court	\$10,000.00	<b>2006</b>	Farmers' Market Award: Portable Facility



Carroll	Riverview Farmers' Market	\$6,290.00	<b>2004</b>	Farmers' Market Development
Carter	Carter County Extension District Board	\$40,000.00	<b>2005</b>	Farmers' Market Facility
Christian	Christian County/Hopkinsville Development Corporation	\$85,000.00	<b>2005</b>	Farmers' Market Award: Permanent Facility
Cumberland	City-County Fair Association, Inc.	\$27,000.00	<b>2005</b>	Farmers' Market Facility
Cumberland	City-County Fair Association, Inc.	\$30,000.00	<b>2006</b>	Farmers' Market Award: Facility Completion
Daviess	Owensboro Farmers Market and Downtown Owensboro, Inc.	\$8,000.00	<b>2001</b>	Farmers' Market Promotion
Daviess	Owensboro Regional Farmers' Market Inc.	\$5,000.00	<b>2009</b>	Farmers' Market Feasibility Study
Elliott	Elliott County Extension District Board	\$4,700.00	<b>2009</b>	Farmers' Market Pavilion
Fleming	Buffalo Trace Area Development District	\$600.00	<b>2004</b>	Farmers' Market Establishment & Promotion
Franklin	Franklin County Farmers Market	\$121,500.00	<b>2003</b>	Farmers' Market Semi-permanent Facility
Gallatin	Kentucky Farmers' Market Association Inc.	\$60,000.00	<b>2009</b>	Statewide Farmers' Market Development
Grant	Grant County Fair Inc.	\$35,000.00	<b>2009</b>	Farmers' Market Facility and Commercial Kitchen
Hancock	Hancock County Fiscal Court	\$27,280.00	<b>2006</b>	Farmers' Market Award: Permanent Facility
Hancock	Hancock County Fiscal Court	\$10,890.00	<b>2008</b>	Farmers' Market Award: Facility Enhancement

Hardin	Hardin County Regional Farmers' Market Foundation, Inc.	\$82,869.00	<b>2007</b>	Farmers' Market Award: Facility
Harrison	Harrison County Extension District Board	\$75,000.00	<b>2009</b>	Farmers' Market Award: Pavilion
Hart	Hart County Chamber of Commerce, Inc.	\$1,500.00	<b>2006</b>	Farmers' Market Establishment
Hart	Hart County Chamber of Commerce, Inc.	\$1,500.00	<b>2008</b>	Farmers' Market Promotion
Hickman	Jackson Purchase Resource Conservation & Development Foundation, Inc.	\$19,989.00	<b>2006</b>	Farmers' Market Award: Facility
Hopkins	Pennyrile Area Farmers Market Association	\$15,020.00	<b>2001</b>	Farmers' Market Facility
Jackson	3AJC Appalachian Alternative Agriculture in Jackson County, Inc	\$287,173.00	<b>2007</b>	Farmers' Market Facility
Jefferson	Metro Development Authority	\$75,000.00	<b>2006</b>	Farmers' Market Award: Study & Business Plan
Jessamine	City of Wilmore	\$2,600.00	<b>2003</b>	Farmers' Market Expansion
Jessamine	Nicholasville Now!, Inc.	\$1,000.00	<b>2003</b>	Farmers' Market Promotion
Johnson	Johnson County Extension District	\$22,300.00	<b>2005</b>	Farmers' Market Facility
Laurel	London-Laurel County Farmers Market Association	\$50,000.00	<b>2006</b>	Farmers' Market Award: Facility
Laurel	London-Laurel County Farmers Market Association, Inc.	\$17,500.00	<b>2008</b>	Farmers' Market Award: Facility Expansion
Lawrence	Lawrence County Extension District Board	\$41,600.00	<b>2006</b>	Farmers' Market Award: Facility

Lawrence	Lawrence County Farm Bureau, Inc. of Lawrence County, Kentucky	\$4,286.00	<b>2007</b>	Farmers' Market Award: Facility Enhancement
Lewis	The Lewis County Vegetable Producers Association Inc.	\$80,000.00	<b>2004</b>	Famers' Market Facility
Logan	Logan County Agricultural Extension Foundation, Inc.	\$120,000.00	<b>2005</b>	Farmers' Market Facility
Logan	Logan County Agricultural Extension Foundation, Inc	\$40,000.00	<b>2006</b>	Farmers' Market Award: Facility Completion
Logan	Logan County Agricultural Extension Foundation, Inc.	\$26,962.00	<b>2007</b>	Farmers' Market Award: Facility Expansion
Madison	Madison County Farm Bureau Federation	\$31,661.42	<b>2001</b>	Farmers' Market Development
Marion	City of Lebanon	\$50,000.00	<b>2008</b>	Farmers' Market Award: Facility
Marshall	Jackson Purchase Resource Conservation and Development Foundation, Inc.	\$6,000.00	<b>2007</b>	Farmers' Market Award: Development
Mason	Mason County Extension District Public Properties Corporation	\$50,000.00	<b>2008</b>	Farmers' Market Award: Facility
Meade	Meade County Farmers' Market, Inc	\$1,000.00	<b>2004</b>	Farmers' Market Promotion
Meade	Meade County Extension District Board	\$53,098.00	<b>2009</b>	Farmers' Market Award: Facility
Nelson	Nelson County Horticulture Advisory Board, Inc. and Nelson County Fiscal Court	\$118,000.00	<b>2005</b>	Farmers' Market Facility

Nicholas	Nicholas County Farmers Market \$	6,000.00	<b>2005</b>	Farmers' Market Facility
Ohio	City of Beaver Dam	\$50,000.00	<b>2009</b>	Farmers' Market Award: Pavilion
Owen	Owen County Chamber of Commerce	\$11,150.00	<b>2003</b>	Farmers' Market Establishment
Perry	Mountain Cattlemen's Association	\$4,394.00	<b>2007</b>	Farmers' Market Award: Promotion
Rockcastle	Rockcastle County Fiscal Court	\$10,056.00	<b>2005</b>	Farmers' Market Facility
Russell	Russell County Farmers Market Association Inc	\$3,500.00	<b>2009</b>	Farmers' Market Shelter
Spencer	Economic Development Authority, Inc	\$2,000.00	<b>2004</b>	Farmers' Market Promotion
Taylor	Farmers Market Association Incorporated of Taylor County	\$8,650.00	<b>2001</b>	Farmers' Market Facility
Taylor	Farmers' Market Association, Inc. of Taylor County	\$10,000.00	<b>2004</b>	Farmers' Market Facility Expansion
Trigg	Renaissance On Main	\$2,000.00	<b>2002</b>	Farmers' Market Development
Trigg	City of Cadiz - Renaissance on Main	\$1,000.00	<b>2005</b>	Farmers' Market Promotion
Warren	South Central Produce Association	\$6,000.00	<b>2001</b>	Farmers' Market Development
Warren	Southern Kentucky Regional Farmers' Market, Inc.	\$10,000.00	<b>2004</b>	Farmers' Market Establishment
Warren	Southern Kentucky Regional Farmers' Market, Inc	. \$5,000.00	<b>2005</b>	Farmers' Market Promotion
Warren	Southern Kentucky Regional Farmers' Market, Inc.	\$5,000.00	<b>2006</b>	Farmers' Market Promotion
Warren	Southern Kentucky Regional Farmers'	\$5,000.00	<b>2007</b>	Farmers' Market Promotion



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